



[4910-06-P]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Railroad Administration**

#### **49 CFR Part 213**

**[Docket No. FRA-2011-0058, Notice No. 1]**

**RIN 2130-AC28**

#### **Track Safety Standards; Improving Rail Integrity**

**AGENCY:** Federal Railroad Administration (FRA), Department of Transportation (DOT).

**ACTION:** Notice of proposed rulemaking (NPRM).

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**SUMMARY:** FRA is proposing to amend the Federal Track Safety Standards to promote the safety of railroad operations by enhancing rail flaw detection processes. In particular, FRA is proposing minimum qualification requirements for rail flaw detection equipment operators, as well as revisions to requirements for effective rail inspection frequencies, rail flaw remedial actions, and rail inspection records. In addition, FRA is proposing to remove regulatory requirements concerning joint bar fracture reporting. This rulemaking is intended to implement section 403 of the Rail Safety Improvement Act of 2008 (RSIA).

**DATES:** (1) Written comments must be received by **[INSERT DATE 60 DAYS AFTER THE DATE OF FEDERAL REGISTER PUBLICATION]**. Comments received after that date will be considered to the extent possible without incurring additional delay or expense.

(2) FRA anticipates being able to resolve this rulemaking without a public, oral hearing. However if FRA receives a specific request for a public, oral hearing prior to **[INSERT DATE 30 DAYS FROM THE DATE OF FEDERAL REGISTER PUBLICATION]**, one will be scheduled and FRA will publish a supplemental notice in the Federal Register to inform interested parties of the date, time, and location of any such hearing.

**ADDRESSES:** Comments: Comments related to this Docket No. FRA-2011-0058, Notice No. 1 may be submitted by any of the following methods:

- Federal eRulemaking Portal: Go to [www.Regulations.gov](http://www.Regulations.gov). Follow the online instructions for submitting comments.
- Mail: Docket Management Facility, U.S. Department of Transportation, Room W12-140, 1200 New Jersey Avenue, SE, Washington, DC 20590-0001.
- Hand Delivery: Docket Management Facility, U.S. Department of Transportation, West Building, Ground floor, Room W12-140, 1200 New Jersey Avenue, SE, Washington, DC, between 9 a.m. and 5 p.m. ET, Monday through Friday, except Federal holidays.
- Fax: 202-493-2251.

Instructions: All submissions must include the agency name and docket number or Regulatory Identification Number (RIN) for this rulemaking. Please note that all comments received will be posted without change to [www.Regulations.gov](http://www.Regulations.gov), including any personal information provided. Please see the discussion under the Privacy Act heading in the Supplementary Information section of this document.

Docket: For access to the docket to read background documents or comments received, go to [www.Regulations.gov](http://www.Regulations.gov) at any time or visit the Docket Management Facility, U.S. Department of Transportation, West Building, Ground floor, Room W12-140, 1200 New Jersey Avenue, SE, Washington, DC between 9 a.m. and 5 p.m. ET, Monday through Friday, except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** Carlo Patrick, Staff Director, Office of Railroad Safety, FRA, 1200 New Jersey Avenue, SE, Washington, DC 20590 (telephone: 202-493-6399); or Elisabeth Galotto, Trial Attorney, Office of Chief Counsel, FRA, 1200 New Jersey Avenue, SE, Washington, DC 20950 (telephone: 202-493-0270).

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### **I. Executive Summary**

The Track Safety Standards Working Group (Working Group) of FRA's Railroad Safety Advisory Committee (RSAC) was formed on February 22, 2006. On October 27, 2007, the Working Group formed two subcommittees: the Rail Integrity Task Force (RITF) and the Concrete Crosstie Task Force. The RITF was tasked to review the reuse of plug rail and the requirements for internal rail flaw inspections. The RITF met 11 times between November 2007 and April 2010. On September 23, 2010 and December 14, 2010, and the RSAC voted to approve the Working Group's recommended text and adopt it as their recommendation to FRA. The RSAC recommendation formed the basis of this NPRM.

This NPRM proposes requirements related to the following subject areas: defective rails, the inspection of rail, qualified operators, and inspection records. The NPRM also addresses the mandate of section 403 of the Rail Safety Improvement Act of

2008, and removes the joint bar fracture report requirement. The following is a brief overview of the proposal organized by the subject area:

- ***Defective Rails***

FRA is proposing to provide railroads with a four-hour period in which to verify that a suspected defect exists in the rail section. The primary purpose of the four-hour deferred-verification option is to assist the railroads in improving detector car utilization and production, increase the opportunity to detect larger defects, and ensure that all of the rail the detector car travels over while in service is inspected. Additionally, FRA proposes revisions to the remedial action table in areas such as transverse defects, longitudinal weld defects, and crushed head defects.

- ***Inspection of Rail***

Currently, Class 4 and 5 track, as well as Class 3 track over which passenger trains operate, are required to be tested for internal rail defects at least once every accumulation of 40 million gross tons (mgt) or once a year (whichever time is shorter). Class 3 track over which passenger trains do not operate are required to be tested at least once every accumulation of 30 mgt or once per year (whichever time is longer). When this standard was drafted, railroads were already initiating and implementing the development of a performance-based risk management concept for determination of rail inspection frequency that is often referred to as the “self-adaptive scheduling method.” Under this method, inspection frequency is established based annually on several factors, including the total detected defect rate per test, the rate of service failures between tests, and the accumulated tonnage between tests. The railroads then utilize this information to generate and maintain a service failure performance target.

The proposed changes in this NPRM seek to codify standard industry good practices. The NPRM proposes to require railroads to maintain service failure rates of no more than 0.1 service failure per year per mile of track for all Class 4 and 5 track; no more than 0.09 service failure per year per mile of track for all Class 3, 4, and 5 track that carries regularly-scheduled passenger trains or is a hazardous material route; and no more than 0.08 service failure per year per mile of track for all Class 3, 4, and 5 track that carries regularly-scheduled passenger trains and is a hazardous material route.

The NPRM also proposes that internal rail inspections on Class 4 and 5 track, or Class 3 track with regularly-scheduled passenger trains or that is a hazardous materials route, not exceed a time interval of 370 days between inspections or a tonnage interval of 30 million gross tons (mgt) between inspections, whichever is shorter. Internal rail inspections on Class 3 track without regularly-scheduled passenger trains and that is not a hazardous materials route must be inspected at least once each calendar year, with no more than 18 months between inspections, or at least once every 30 mgt, whichever interval is longer, with the additional provision that inspections cannot be more than 5 years apart.

- ***Qualified Operators***

FRA proposes to add a new provision requiring that each provider of rail flaw detection have a documented training program to ensure that a flaw detection equipment operator is qualified to operate each of the various types of equipment currently utilized in the industry for which he or she is assigned to operate.

- ***Removing the Requirement of a Joint Bar Fracture Report***

This NPRM proposes removing the requirement that railroads generate a Joint Bar Fracture Report (Fracture Report) for every cracked or broken continuous welded rail (CWR) joint bar that the track owner discovers during the course of an inspection. The RSAC Working Group ultimately determined that the reports were providing little useful research data to prevent future failures of CWR joint bars. Instead, the Group recommended that a new study be conducted to determine what conditions lead to CWR joint bar failures and include a description of the overall condition of the track in the vicinity of the failed joint(s); photographic evidence of the failed joint, track geometry (gage, alignment, profile, cross-level) at the joint location; and the maintenance history at the joint location.

- ***Inspection Records***

FRA proposes to require that the railroad's rail inspection records include the date of inspection, track identification and milepost for each location tested, type of defect found and size if not removed prior to traffic, and initial remedial action as required by § 213.113. FRA also proposes that all tracks that do not receive a valid inspection are documented in the railroad rail inspection records.

- ***Section 403 of the RSIA***

On October 16, 2008, the RSIA (Pub. L. 110-432, Division A) was enacted. Section 403(a) of the RSIA required the Secretary to conduct a study of track issues, known as the Track Inspection Time Study (Study). The Study was to determine whether track inspection intervals needed to be amended; whether track remedial action requirements needed to be amended; whether different track inspection and repair priorities and methods were required; and whether the speed of track inspection vehicles

should be regulated. As part of the study, section 403(b) instructed the Secretary to consider “the most current rail flaw, rail defect growth, rail fatigue, and other relevant track- or rail-related research and studies,” as well as new inspection technologies, and National Transportation Safety Board (NTSB) and FRA accident information. The study was completed and presented to Congress on May 2, 2011. Section 403(c) of the RSIA further provides that FRA prescribe regulations based on the results of the Study two years after its completion.

On August 16, 2011, RSAC accepted RSAC task 11-02, which was generated in response to the RSIA and to address the recommendations of the Study. After several meetings, the Association of American Railroads (AAR) together with the Brotherhood of Maintenance of Way Employees Division (BMWED) stated that FRA had met its obligations under section 403(c) of the RSIA through its rulemakings on vehicle/track interaction (VTI), concrete crossties, and the proposals contained in this NPRM related to rail integrity. They also stated that additional action on RSAC task 11-02 was unnecessary and recommended that the task should be closed. FRA took the proposal under advisement after the February meeting and conducted its own analysis as to the fulfillment of the mandates under section 403. FRA concluded that these statutory obligations were being fulfilled and on April 13, 2012, the Working Group approved a proposal to conclude RSAC task 11-02. On April 26, 2012, the RSAC concluded that FRA’s recent and ongoing rulemakings were sufficiently addressing the statutorily-mandated topics and that no additional work by the RSAC was necessary. Thus, the full RSAC approved the proposal and closed RSAC task 11-02.

- ***Economic Impact***



The bulk of the proposed regulation revises FRA’s Track Safety Standards by codifying current industry good practices. In analyzing the economic impacts of the proposed rule, FRA does not believe that any existing operation will be adversely affected by these changes, nor does FRA believe that the changes will induce any costs.

Through its regulatory evaluation, FRA has explained what the likely benefits for this proposed rule would be, and has provided a cost-benefit analysis. FRA anticipates that this rulemaking would enhance the current Track Safety Standards by allocating more time to rail inspections, increasing the opportunity to detect larger defects sooner, providing assurance that qualified operators are inspecting the rail, and causing inspection records to be updated with more useful information. The main benefit associated with this proposed rule is derived from granting the railroads a four-hour window to verify some defects found in a rail inspection. Without the additional time to verify a defect, railroads currently must stop their inspection anytime a suspect defect is identified, and then resume their inspection after the defect is verified. The defects subject to the proposed deferred verification allowance are usually considered less likely to cause immediate rail failure, and require less restrictive remedial action. The additional time permits railroads to avoid the cost of paying their internal inspection crews or renting a rail car flaw detector an additional half day, saving the industry \$8,400 per day. FRA believes the value of the anticipated benefits would easily justify the cost of implementing the rule as proposed.

Table E1—Total Discounted Net Benefits for 20-year Period

Discount Factor

7 percent

3 percent

#### Four Hour Inspection

Window	\$34,754,935	\$46,982,768
Net Benefit	\$34,754,935	\$46,982,768

The rule's total net benefits are estimated to be about \$61.3 million over a 20-year period. The benefits are approximately \$47.0 million discounted at a 3 percent rate, or about \$34.8 million, discounted at a 7 percent rate. FRA believes that such improvements would more than likely result from the adoption of the proposed rule by the railroad industry.

## **II. Rail Integrity Overview**

### **A. Derailment in 2001 Near Nodaway, Iowa**

On March 17, 2001, the *California Zephyr*, a National Railroad Passenger Corporation (Amtrak) passenger train carrying 257 passengers and crew members, derailed near Nodaway, Iowa. According to the NTSB, sixteen cars decoupled from the two locomotives and eleven cars went off the rails. Seventy-eight people were injured and one person died from the accident. See NTSB/RAB-02-01.

The NTSB discovered a broken rail at the point of derailment. The broken pieces of rail were reassembled at the scene, and it was determined that they came from a 15½-foot section of rail that had been installed as replacement rail, or "plug rail," at this location in February, 2001. The replacement had been made because, during a routine scan of the existing rail on February 13, 2001, the Burlington Northern and Santa Fe Railway (now BNSF Railway Company or BNSF) discovered internal defects that could possibly hinder the rail's effectiveness. A short section of the continuous welded rail that

contained the defects was removed, and a piece of replacement rail was inserted.

However, the plug rail did not receive an ultrasonic inspection before or after installation.

During the course of the accident investigation, the NTSB could not reliably determine the source of the plug rail. While differing accounts were given concerning the origin of the rail prior to its installation in the track, the replacement rail would most likely have been rail which was removed from another track location for reuse. Analysis of the rail found that the rail failed due to fatigue initiating from cracks associated with the precipitation of internal hydrogen. If the rail had been ultrasonically inspected prior to its reuse, it is likely that the defects could have been identified and that section of rail might not have been used as plug rail.

As a result of its investigation of the Nodaway, Iowa, railroad accident, the NTSB recommended that FRA require railroads to conduct ultrasonic or other appropriate inspections to ensure that rail used to replace defective segments of existing rail is free from internal defects. See NTSB Recommendation-02-5.

## **B. Derailment in 2006 Near New Brighton, Pennsylvania**

On October 20, 2006, Norfolk Southern Railway Company (NS) train 68QB119 derailed while crossing the Beaver River railroad bridge in New Brighton, Pennsylvania. The train was pulling eighty-three tank cars loaded with denatured ethanol, a flammable liquid. Twenty-three of the tank cars derailed near the east end of the bridge, causing several of the cars to fall into the Beaver River. Twenty of the derailed cars released their loads of ethanol, which subsequently ignited and burned for forty-eight hours. Some of the unburned ethanol liquid was released into the river and the surrounding soil. Homes and businesses within a seven-block area of New Brighton and in an area adjacent to the

accident had to be evacuated for days. While no injuries or fatalities resulted from the accident, NS estimated economic and environmental damages to be \$5.8 million. See NTSB/RAB-08-9 through 12.

The NTSB determined that the probable cause of the derailment was an undetected internal rail defect identified to be a detail fracture. The NTSB also noted that insufficient regulation regarding internal rail inspection may have contributed to the accident.

This accident demonstrates the potential for rail failure with subsequent derailment if a railroad's internal rail defect detection process fails to detect an internal rail flaw. This accident also indicates a need for adequate requirements that will ensure rail inspection and maintenance programs identify and remove rail with internal defects before they reach critical size and result in catastrophic rail failures.

### **C. Office of Inspector General Report: *Enhancing the Federal Railroad***

#### ***Administration's Oversight of Track Safety Inspections***

On February 24, 2009, the Office of Inspector General (OIG) for the Department of Transportation (DOT) issued a report presenting the results of its audit of FRA's oversight of track-related safety issues. The report made two findings. First, the OIG found that FRA's safety regulations for internal rail flaw testing did not require the railroads to report the specific track locations, such as milepost numbers or track miles that were tested during these types of inspections. Second, the OIG found that FRA's inspection data systems did not provide adequate information for determining the extent to which FRA's track inspectors have reviewed the railroads' records for internal rail flaw testing and visual track inspections to assess compliance with safety regulations.

The OIG recommended that FRA revise its track safety regulations for internal rail flaw testing to require railroads to report track locations covered during internal rail flaw testing, and that FRA develop specific inspection activity codes for FRA inspectors to use to report on whether the record reviews FRA inspectors conduct were for internal rail flaw testing or visual track inspections. Enhancing the Federal Railroad Administration's Oversight of Track Safety Inspections, Department of Transportation, Office of Inspector General, CR-2009-038, February 24, 2009.

#### **D. General Factual Background on Rail Integrity<sup>1</sup>**

The single most important asset to the railroad industry is its rail infrastructure, and historically the primary concern of the railroad companies is the probability of rail flaw development, broken rails, and subsequent derailments. This has resulted in railroads improving their rail maintenance practices, purchasing more wear-resistant rail, improving flaw-detection technologies, and increasing rail inspection frequencies in an effort to prevent rail defect development. The direct cost of an undetected rail failure is the difference between the cost of replacing the rail failure on an emergency basis, and the cost of the organized replacement of detected defects. However, a rail defect that goes undetected and results in a train derailment can cause considerable additional costs such as excessive service interruption, extensive traffic rerouting, environmental damage, and potential injury and loss of life.

To maximize the life of rail, railroads must accept a certain rate of defect development. This results in the railroad relying on regular rail inspection cycles, and

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<sup>1</sup> This section is primarily based on information from two sources: Progress in Rail Integrity Research, DOT/FRA/Ord-01/18, D. Jeong 2001; and I. H. H. A. Guidelines to Best Practices for Heavy Haul Railway Operations; Infrastructure Construction and Maintenance Issues, Section 4.3.1 Rail Defect Detection and Technologies, Carlo M. Patrick, R. Mark Havira, Gregory A. Garcia, Library of Congress Control No. 2009926418, 2009.

strategically renewing rail that is obviously showing evidence of fatigue. The development of internal rail defects is an inevitable consequence of the accumulation and effects of fatigue under repeated loading. The challenge for the railroad industry is to avoid the occurrence of rail service failure due to the presence of an undetected defect. Rail service failures are expensive to repair and can lead to costly service disruptions and possibly derailments.

The effectiveness of a rail inspection program depends on the test equipment being properly designed and capable of reliably detecting rail defects of a certain size and orientation, while also ensuring that the test frequencies correspond to the growth rate of critical defects. The objective of a rail inspection program is to reduce the annual costs resulting from broken rails, which involve several variables.

The predominant factor that determines the risk of rail failure is the rate of development of internal flaws. Internal rail flaws have a period of origin and a period often referred to as slow crack growth life. The risk is introduced when internal flaws remain undetected during their growth to a critical size. This occurs when the period between when the crack develops to a detectable size is significantly shorter than the required test interval.

In practice, the growth rate of rail defects is considered highly inconsistent and unpredictable. Rail flaw detection in conjunction with railroad operations often presents some specific problems. This is a result of high traffic volumes that load the rail and accelerate defect growth, while at the same time decreasing the time available for rail inspection. Excessive wheel loading can result in stresses to the rail that can increase defect growth rates. Consequently, heavy axle loading can lead to rail surface fatigue

that may prevent detection of an underlying rail flaw by the test equipment. Most railroads attempt to control risk by monitoring test reliability through an evaluation process of fatigue service failures that occur soon after testing, and by comparing the ratio of service failures or broken rails to detected rail defects.

The tonnage required to influence defect development is also considered difficult to predict; however, once initiated, transverse defect development is influenced by tonnage. Rapid growth rates can also be associated with rail where high-tensile residual stresses are present in the railhead and in CWR in lower temperature ranges where the rail is in high longitudinal tension.

It is common for railroads to control risk by monitoring the occurrence of both detected and service defects. For U.S. railroads, risk is typically evaluated to warrant adjustment of test frequencies. The railroads attempt to control the potential of service failure by testing more frequently.

In general, the approach in conducting rail integrity research is focused to confirm whether rail defects can be detected by periodic inspection before they grow large enough to cause a rail failure. In the context of rails, damage tolerance is the capability of the rail to resist failure and continue to operate safely with damage (i.e., rail defects). This implies that a rail containing a crack or defect is weaker than a normal rail, and that the rail's strength decreases as the defect grows. As growth continues, the applied stresses will eventually exceed the rail's strength and cause a failure. Such information can be used to establish guidelines for determining the appropriate frequency of rail inspections to mitigate the risk of rail failure from undetected defects.

Current detection methods that are performed in the railroad industry utilize various types of processes with human involvement in the interpretation of the test data.

These include the:

- Portable test process, which consists of an operator pushing a test device over the rail at a walking pace while visually interpreting the test data;
- Start/stop process, where a vehicle-based flaw detection system tests at a slow speed (normally not exceeding 20 mph) gathering data that is presented to the operator on a test monitor for interpretation;
- Chase car process, which consists of a lead test vehicle performing the flaw detection process in advance of a verification chase car; and
- Continuous test process, which consists of operating a high-speed, vehicle-based test system non-stop along a designated route, analyzing the test data at a centralized location, and subsequently verifying suspect defect locations.

The main technologies utilized for non-destructive testing on U.S. railroads are the ultrasonic and induction methods. Ultrasonic technology is the primary technology used, and induction technology is currently used as a complimentary system. As with any non-destructive test method, these technologies are susceptible to physical limitations that allow poor rail head surface conditions to negatively influence the detection of rail flaws. The predominant types of these poor rail head surface conditions are shells, engine driver burns, spalling, flaking, corrugation, and head checking. Other conditions that are encountered include heavy lubrication or debris on the rail head.

Induction testing requires the introduction of a high-level, direct current into the top of the rail and establishing a magnetic field around the rail head. An induction sensor



unit is then passed through the magnetic field. The presence of a rail flaw will result in a distortion of the current flow, and it is this distortion of the magnetic field that is detected by the search unit.

Ultrasonics can be briefly described as sound waves, or vibrations, that propagate at a frequency that is above the range of human hearing, normally above a range of 20,000 Hz, or cycles per second. The range normally utilized during current flow detection operations is 2.25 MHz (million cycles per second) to 5.0 MHz. Ultrasonic waves are generated into the rail by piezo-electric transducers that can be placed at various angles with respect to the rail surface. The ultrasonic waves produced by these transducers normally scan the entire rail head and web, as well as the portion of the base directly beneath the web. Internal rail defects represent a discontinuity in the steel material that constitutes the rail. This discontinuity acts as a reflector to the ultrasonic waves, resulting in a portion of the wave being reflected back to the respective transducer. These conditions include rail head surface conditions, internal or visible rail flaws, weld upset/finish, or known reflectors within the rail geometry such as drillings or rail ends. The information is then processed by the test system and recorded in the permanent test data record. Interpretation of the reflected signal is the responsibility of the test system operator.

Railroads have always inspected track visually to detect rail failures, and have been using crack-detection devices in rail-test vehicles since the 1930s. Meanwhile, trends in the railroad industry have been to increase traffic density and average axle loads. Current rail integrity research recognizes and addresses the need to review and update rail inspection strategies and subsequent preventive measures. This would include

the frequency interval of rail inspection, remedial action for identified rail defects, and improvements to the performance of the detection process.

FRA has sponsored research related to railroad safety for several decades. One part of this research program is focused on rail integrity. The general objectives of FRA rail integrity research have been to improve railroad safety by reducing rail failures and the associated risks of train derailment, and to do so more efficiently through new maintenance practices that increase rail service life. Brief descriptions of the studies conducted by FRA focus on four different areas: analysis of rail defects; residual stresses in rail; strategies for rail testing; and other areas related to rail integrity, which include advances in nondestructive inspection techniques and feasibility of advanced materials for rail, rail lubrication, rail grinding, and wear. Moreover, rail integrity research is an ongoing effort, and will continue as annual tonnages and average axle loads increase on the nation's railroads.

Due to the limitations of current technology to detect internal flaws beneath surface conditions and in the base flange area, FRA's research has been focusing on other rail flaw detection technologies. One laser-based ultrasonic rail defect detection prototype, which is being developed by the University of California-San Diego under an FRA Office of Research and Development grant, has produced encouraging results in ongoing field testing. The project goal is to develop a rail defect detection system that provides better defect detection reliability and a higher inspection speed than is currently achievable. The primary target is the detection of transverse defects in the rail head. The method is based on ultrasonic guided waves, which can travel below surface discontinuities, hence minimizing the masking effect of transverse cracks by surface

shelling. The inspection speed can be improved greatly also because guided waves run long distances before attenuating.

Non-destructive test systems perform optimally on perfect test specimens. However, rail in track is affected by repeated wheel loading that results in the plastic deformation of the rail running surface that can create undesirable surface conditions as described previously. These conditions can influence the development of rail flaws. These conditions can also affect the technologies currently utilized for flaw detection by limiting their detection capabilities. Therefore, it is important that emerging technology development continue, in an effort to alleviate the impact of adverse rail surface conditions.

#### **E. Statutory Mandate to Conduct this Rulemaking**

The first Federal Track Safety Standards (Standards) were published on October 20, 1971, following the enactment of the Federal Railroad Safety Act of 1970, Pub. L. No. 91-458, 84 Stat. 971 (October 16, 1970), in which Congress granted to FRA comprehensive authority over “all areas of railroad safety.” See 36 FR 20336. FRA envisioned the new Standards to be an evolving set of safety requirements subject to continuous revision allowing the regulations to keep pace with industry innovations and agency research and development. The most comprehensive revision of the Standards resulted from the Rail Safety Enforcement and Review Act of 1992, Pub. L. No. 102-365, 106 Stat. 972 (Sept. 3, 1992), later amended by the Federal Railroad Safety Authorization Act of 1994, Pub. L. No. 103-440, 108 Stat. 4615 (Nov. 2, 1994). The amended statute is codified at 49 U.S.C. 20142 and required the Secretary of Transportation (Secretary) to review and then revise the Standards, which are contained in 49 CFR part 213. The

Secretary has delegated such statutory responsibilities to the Administrator of FRA. See 49 CFR 1.49. FRA carried out this review on behalf of the Secretary, which resulted in FRA issuing a final rule amending the Standards in 1998. See 63 FR 34029, June 22, 1998; 63 FR 54078, Oct. 8, 1998.

Pursuant to 49 U.S.C. 20103, the Secretary may prescribe regulations as necessary in any area of railroad safety. As described in the next section, FRA began its examination of rail integrity issues through RSAC on October 27, 2007. Then, on October 16, 2008, the RSIA was enacted. As previously noted, section 403(a) of the RSIA required the Secretary to conduct a study of track issues known as the Track Inspection Time Study (Study). In doing so, section 403(b) required the Secretary to consider “the most current rail flaw, rail defect growth, rail fatigue, and other relevant track- or rail-related research and studies” as part of the Study. The Study was completed and submitted to Congress on May 2, 2011. Section 403(c) also required the Secretary to promulgate regulations based on the results of the study. As delegated by the Secretary, see 49 CFR 1.49, FRA utilized its advisory committee, RSAC and its Rail Integrity Task Force, to help develop the information necessary to fulfill the RSIA’s mandates in this area.

FRA notes that section 403 of the RSIA contains one additional mandate, which FRA has already fulfilled, promulgating regulations for concrete crossties. On April 1, 2011, FRA published a final rule on concrete crosstie regulations per this mandate in section 403(d). That final rule specifies requirements for effective concrete crossties, for rail fastening systems connected to concrete crossties, and for automated inspections of track constructed with concrete crossties. See 76 FR 18073. FRA received two petitions

for reconsideration in response to that final rule, and responded to them by final rule published on September 9, 2011. See 76 FR 55819.

### **III. Overview of FRA's Railroad Safety Advisory Committee (RSAC)**

In March 1996, FRA established RSAC, which provides a forum for developing consensus recommendations to the Administrator of FRA on rulemakings and other safety program issues. RSAC includes representation from all of the agency's major stakeholders, including railroads, labor organizations, suppliers and manufacturers, and other interested parties. An alphabetical list of RSAC members follows:

AAR;

American Association of Private Railroad Car Owners;

American Association of State Highway and Transportation Officials (AASHTO);

American Chemistry Council;

American Petrochemical Institute;

American Public Transportation Association (APTA);

American Short Line and Regional Railroad Association (ASLRRA);

American Train Dispatchers Association;

Amtrak;

Association of Railway Museums;

Association of State Rail Safety Managers (ASRSM);

BMWED;

Brotherhood of Locomotive Engineers and Trainmen (BLET);

Brotherhood of Railroad Signalmen (BRS);

Chlorine Institute;

Federal Transit Administration;\*

Fertilizer Institute;

High Speed Ground Transportation Association;

Institute of Makers of Explosives;

International Association of Machinists and Aerospace Workers;

International Brotherhood of Electrical Workers;

Labor Council for Latin American Advancement;\*

League of Railway Industry Women;\*

National Association of Railroad Passengers;

National Association of Railway Business Women;\*

National Conference of Firemen & Oilers;

National Railroad Construction and Maintenance Association;

NTSB;\*

Railway Supply Institute;

Safe Travel America;

Secretaria de Comunicaciones y Transporte;\*

Sheet Metal Workers International Association;

Tourist Railway Association Inc.;

Transport Canada;\*

Transport Workers Union of America;

Transportation Communications International Union/BRC;

Transportation Security Administration; and

United Transportation Union (UTU).

*\*Indicates associate, non-voting membership.*

When appropriate, FRA assigns a task to RSAC, and after consideration and debate, RSAC may accept or reject the task. If the task is accepted, RSAC establishes a working group that possesses the appropriate expertise and representation of interests to develop recommendations to FRA for action on the task. These recommendations are developed by consensus. A working group may establish one or more task forces to develop facts and options on a particular aspect of a given task. The task force then provides that information to the working group for consideration.

If a working group comes to a unanimous consensus on recommendations for action, the package is presented to the full RSAC for a vote. If the proposal is accepted by a simple majority of RSAC, the proposal is formally recommended to FRA. FRA then determines what action to take on the recommendation. Because FRA staff members play an active role at the working group level in discussing the issues and options and in drafting the language of the consensus proposal, FRA is often favorably inclined toward the RSAC recommendation.

However, FRA is in no way bound to follow the recommendation, and the agency exercises its independent judgment on whether a recommended rule achieves the agency's regulatory goals, is soundly supported, and is in accordance with policy and legal requirements. Often, FRA varies in some respects from the RSAC recommendation in developing the actual regulatory proposal or final rule. Any such variations would be noted and explained in the rulemaking document issued by FRA. However, to the maximum extent practicable, FRA utilizes RSAC to provide consensus recommendations with respect to both proposed and final agency action. If RSAC is unable to reach

consensus on a recommendation for action, the task is withdrawn and FRA determines the best course of action.

#### **IV. RSAC Track Safety Standards Working Group**

The Track Safety Standards Working Group (Working Group) was formed on February 22, 2006. On October 27, 2007, the Working Group formed two subcommittees: the Rail Integrity Task Force (RITF) and the Concrete Crosstie Task Force. Principally in response to NTSB recommendation R-02-05,<sup>2</sup> the task statement description for the RITF was to review the controls applied to the reuse of plug rail and ensure a common understanding within the regulated community concerning requirements for internal rail flaw inspections.

However, after the New Brighton accident, and in response to NTSB recommendations R-08-9, R-8-10, and R-08-11,<sup>3</sup> the RITF was given a second task on September 10, 2008, which directed the group to do the following: (1) evaluate factors that can and should be included in determining the frequency of internal rail flaw testing and develop a methodology for taking those factors into consideration with respect to mandatory testing intervals; (2) determine whether the quality and consistency of internal rail flaw testing can be improved and how; (3) determine whether adjustments to current

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<sup>2</sup> After the accident in Nodaway, the NTSB recommended that FRA “[r]equire railroads to conduct ultrasonic or other appropriate inspections to ensure that rail used to replace defective segments of existing rail is free from internal defects.” NTSB Safety Recommendation R-02-5, dated March 5, 2002.

<sup>3</sup> After the New Brighton accident, the NTSB issued three additional safety recommendations dated May 22, 2008: (1) FRA should “[r]eview all railroads’ internal rail defect detection and require changes to those procedures as necessary to eliminate exception to the requirement for an uninterrupted, continuous search for rail defects.” R-08-9; (2) FRA should “[r]equire railroads to develop rail inspection and maintenance programs based on damage-tolerance principles, and approve those programs. Include in the requirement that railroads demonstrate how their programs will identify and remove internal defects before they reach critical size and result in catastrophic rail failures. Each program should take into account, at a minimum, accumulated tonnage, track geometry, rail surface conditions, rail head wear, rail steel specifications, track support, residual stresses in the rail, rail defect growth rates, and temperature differentials.” R-08-10; and (3) FRA should “[r]equire that railroads use methods that accurately measure rail head wear to ensure that deformation of the head does not affect the accuracy of the measurements.” R-08-11.



remedial action criteria are warranted; and (4) evaluate the effect of rail head wear, surface conditions and other relevant factors on the acquisition and interpretation of internal rail flaw test results.

The RITF met on November 28-29, 2007; February 13-14, 2008; April 15-16, 2008; July 8-9, 2008; September 16-17, 2008; February 3-4, 2009; June 16-17, 2009; October 29-30, 2009; January 20-21, 2010; March 9-11, 2010; and April 20, 2010. The RITF's findings were reported to the Working Group for approval on July 28-30, 2010. The Working Group reached a consensus on the majority of the RITF's work and forwarded proposals to the full RSAC on September 23, 2010 and December 14, 2010. The RSAC voted to approve the Working Group's recommended text, which provided the basis for this NPRM.

In addition to FRA staff, the members of the Working Group include the following:

- AAR, including the Transportation Technology Center, Inc., and members from BNSF, Canadian National Railway (CN), Canadian Pacific Railway (CP), CSX Transportation, Inc., The Kansas City Southern Railway Company (KCS), NS, and Union Pacific Railroad Company (UP);
- Amtrak;
- APTA, including members from Northeast Illinois Regional Commuter Railroad Corporation (Metra), Long Island Rail Road (LIRR), and Southeastern Pennsylvania Transportation Authority (SEPTA);
- ASLRRA (representing short line and regional railroads);
- BLET;

- BMWED;
- BRS;
- John A. Volpe National Transportation Systems Center (Volpe Center)
- NTSB; and
- UTU.

FRA worked closely with RSAC in developing its recommendations and believes that RSAC has effectively addressed rail inspection safety issues regarding the frequency of inspection, rail defects, remedial action, and operator qualification. FRA has greatly benefited from the open, informed exchange of information during the meetings. There is a general consensus among railroads, rail labor organizations, State safety managers, and FRA concerning the primary principles set forth in this NPRM. FRA believes that the expertise possessed by RSAC representatives enhances the value of the recommendations, and FRA has made every effort to incorporate them in this proposed rule.

Nevertheless, the Working Group was unable to reach consensus on one item that FRA has elected to include in this NPRM. The Working Group could not reach consensus on the definition of “segment” length, which FRA proposes to be utilized in a new performance-based test frequency determination in §213.237, “Inspection of Rail,” as discussed below.

## **V. Track Inspection Time Study**

As noted previously, section 403(a) of the RSIA required the Secretary to conduct a study of track issues. The Study was to determine whether track inspection intervals needed to be amended; whether track remedial action requirements needed to be

amended; whether different track inspection and repair priorities and methods were required; and whether the speed of track inspection vehicles should be more specifically regulated. In conducting the Study, section 403(b) instructed the Secretary to consider “the most current rail flaw, rail defect growth, rail fatigue, and other relevant track- or rail-related research and studies,” as well as new inspection technologies, and NTSB and FRA accident information. The Study was completed and presented to Congress on May 2, 2011. Section 403(c) further provided that FRA prescribe regulations based on the results of the Study two years after its completion.

On August 16, 2011, RSAC accepted task 11-02, which was generated in response to the RSIA and to address the recommendations of the Study. Specifically, the purpose of the task was “[t]o consider specific improvements to the Track Safety Standards or other responsive actions to the Track Inspection Time Study required by § 403 (a) through (c) of the RSIA and other relevant studies and resources.” The first meeting of the Working Group assigned to the task occurred on October 20, 2011, and a second meeting was held on December 20, 2011. At the third meeting on February 7-8, 2012, the AAR together with the BMWED stated that FRA had met its obligations under section 403(c) of the RSIA through its rulemakings on vehicle/track interaction (VTI), concrete crossties, and the proposals contained in this NPRM on rail integrity. They also stated that additional action on RSAC task 11-02 was unnecessary and recommended that the task should be closed. FRA took the proposal under advisement after the February meeting and conducted its own analysis as to the fulfillment of the mandates under section 403. FRA concluded that these statutory obligations were being fulfilled and on April 13, 2012, the Working Group approved a proposal to conclude RSAC task 11-02.

On April 26, 2012, the full RSAC approved the proposal and closed RSAC task 11-02.

The recommendation approved by the full RSAC is described below.

In determining whether regulations were necessary based on the results of the Study, RSAC examined the Study's four issues for improving the track inspection process:

- Expanding the use of automated inspections;
- Developing additional training requirements for track inspectors;
- Considering a maximum inspection speed for track inspection vehicles; and
- Influencing safety culture through a safety reporting system.

The Study's first recommendation was that FRA consider expanding the use of automated inspections to improve inspection effectiveness. Specifically, the Study cited two specific track defects that are more difficult to detect through visual track inspection and could benefit from the use of automated inspection: rail seat abrasion (RSA) and torch cut bolt holes. Through discussion among the affected parties, it was determined that these areas of concern already had been covered under previous rulemaking and regulations. The Concrete Crossties final rule published on April 1, 2011, new § 213.234, "Automated inspection of track constructed with concrete crossties," specifically employs the use of automated inspection "to measure for rail seat deterioration." In addition, torch cut bolt holes have been prohibited on track classes 2 and above since 1999, which was codified in §§ 213.121(g) and 213.351(f), and they are easily identifiable through the rail flaw detection technology currently in use. Thus, the RSAC concluded that additional regulations to find such defects would be unnecessary.

Outside of these two specific defects, the RSAC concluded that the instant NPRM would also be revising automated inspection standards in other areas, such as ultrasonic testing. For example, this NPRM proposes changing the ultrasonic testing of rail from a standard based on time and tonnage to one based on self-adaptive performance goals. Thus, the full RSAC concluded that the use of automated inspection has been sufficiently expanded in the areas that are most ideally suited for development at this point. While FRA and RSAC noted that they may wish to make changes to the automated inspection standards in the future, FRA and RSAC nevertheless maintained that the changes stated above sufficiently satisfy the RSIA's mandate.

However, RSAC concurred with FRA, BMWED and AAR that it was important to ensure that any type of report generated from the automated inspection of track, regardless of whether it is mandated by regulation or voluntarily utilized by a railroad, be made available to track inspectors. Therefore, in this NPRM, FRA is issuing policy guidance to encourage track owners and railroads to provide the information from their automated track inspections in a usable format to those persons designated as fully qualified under the Track Safety Standards and assigned to inspect or repair the track over which an automated inspection is made. This guidance is as follows:

When automated track inspection methods are used by the track owner, FRA recommends that the information from that inspection be provided or made readily available to those persons designated as fully qualified under CFR 213.7 and assigned to inspect or repair the track over which the automated inspection was made.

The second recommendation the Study addressed was whether FRA should develop additional training requirements for track inspectors. RSAC found that it was unnecessary to generate additional training standards under RSAC task 11-02 for two

reasons. First, the instant NPRM proposes to create a new § 213.238 to address an area of training that requires new standards. Proposed § 213.238 defines a qualified operator of rail flaw detection equipment and requires that each provider of rail flaw detection service have a documented training program to ensure that a rail flaw detection equipment operator is qualified to operate each of the various types of equipment currently utilized in the industry for which he or she is assigned, and that proper training is provided in the use of newly-developed technologies. Second, the recently published NPRM on Training, Qualification, and Oversight for Safety-Related Railroad Employees, 77 FR 6412 (proposed Feb. 7, 2012) (to be codified at 49 CFR parts. 214, 232, and 243), proposes to require that employers develop and submit for FRA review a program detailing how they will train their track inspectors. As proposed in the NPRM, employees charged with the inspection of track or railroad equipment are considered safety-related railroad employees that each employer must train and qualify. The proposed formal training for employees responsible for inspecting track and railroad equipment is expected to cover all aspects of their duties related to complying with the Federal standards. FRA would expect that the training programs and courses for such employees would include techniques for identifying defective conditions and would address what sort of immediate remedial actions need to be initiated to correct critical safety defects that are known to contribute to derailments, accidents, incidents, or injuries. *Id.*, at 6415. The RSAC found that new requirements for the training of track inspectors were being adequately addressed by this proposed NPRM on employee training standards, and thus did not believe additional action was currently necessary in this area.

The third recommendation of the Study addressed whether track hi-rail inspection speed should be specified. The Study concluded that specifying limits to hi-rail inspection speeds could be “counterproductive.” With the currently-available data in this area, the RSAC concurred with the Study’s recommendation, and determined that no further action needed to be taken in this area at this time. The RSAC found that the existing reliance on the “inspector’s discretion” as noted in § 213.233, should generally govern track inspection speed. FRA notes that this point will be emphasized in the next publication of FRA’s Track Safety Standards Compliance Manual. FRA also makes clear that, in accordance with § 213.233, if a vehicle is used for visual inspection, the speed of the vehicle may not be more than 5 m.p.h. when passing over track crossings and turnouts.

Finally, the last recommendation of the Study addressed ways to enhance the track safety culture of railroads through programs such as a safety reporting system, like the Confidential Close Call Reporting System currently piloted by FRA. The RSAC was aware that the Risk Reduction Working Group was in the process of developing recommendations for railroads to develop risk reduction programs, which should incorporate many safety concerns in this area. Therefore, the RSAC concluded that additional, overlapping discussion was unnecessary given the specific concurrent focus of the Risk Reduction Working Group.

FRA notes that, in addition to addressing the Study’s recommendations, RSAC task 11-02 also incorporated other goals Congress had for the Study, which are described in section 403(a), such as reviewing track inspection intervals and remedial action requirements, as well as track inspection and repair priorities. The RSAC concluded that

FRA's recent and ongoing rulemakings are sufficiently addressing these areas and that no additional work is currently necessary. Specifically, the instant rulemaking is intended to amend inspection intervals to reflect a new performance-based inspection program, revise the remedial action table for rail, and alter inspection and repair priorities involving internal rail testing and defects such as a crushed head and defective weld. The Concrete Crossties final rule also established new inspection methods and intervals requiring automated inspection, as well as new remedial actions for exceptions that can be field-verified within 48 hours. Finally, in addition to other requirements, the Vehicle/Track Interaction Safety Standards (VTI) rulemaking, Vehicle/Track Interaction Safety Standards; High-Speed and High Cant Deficiency Operations, 75 FR 25928 (proposed May 10, 2010)(to be codified at 49 CFR parts 213 and 238), is addressing track geometry, inspection, and VTI safety requirements for high speed operations and operations at high cant deficiency over any track class.

Therefore, the RSAC recommended and FRA subsequently concluded that additional work on any of these areas would be unnecessary at this time, given the recent and ongoing work of the RSAC and FRA. FRA believes that its recent and ongoing rulemakings sufficiently address the statutorily-mandated topics in section 403 and that no additional work by the RSAC was currently necessary.

## **VI. Section-by-Section Analysis**

### **Section 213.3 Application**

FRA proposes to modify paragraph (b) to clarify the exclusion of track located inside a plant railroad's property from the application of this part. In this paragraph, "plant railroad" means a type of operation that has traditionally been excluded from the



application of FRA regulations because it is not part of the general railroad system of transportation. In the past, FRA has not defined the term “plant railroad” in other regulations that it has issued because FRA assumed that its Statement of Agency Policy Concerning Enforcement of the Federal Railroad Safety Laws, The Extent and Exercise of FRA’s Safety Jurisdiction, 49 CFR part 209, Appendix A (FRA’s Policy Statement or the Policy Statement) provided sufficient clarification as to the definition of that term. However, it has come to FRA’s attention that certain rail operations believed that they met the characteristics of a plant railroad, as set forth in the Policy Statement, when, in fact, their rail operations were part of the general railroad system of transportation (general system) and therefore did not meet the definition of a plant railroad. FRA would like to avoid any confusion as to what types of rail operations qualify as plant railroads. FRA would also like to save interested persons the time and effort needed to cross-reference and review FRA’s Policy Statement to determine whether a certain operation qualifies as a plant railroad. Consequently, FRA has decided to define the term “plant railroad” in this part 213.

The proposed definition would clarify that when an entity operates a locomotive to move rail cars in service for other entities, rather than solely for its own purposes or industrial processes, the services become public in nature. Such public services represent the interchange of goods, which characterizes operation on the general system. As a result, even if a plant railroad moves rail cars for entities other than itself solely on its property, the rail operations will likely be subject to FRA’s safety jurisdiction because those rail operations bring plant track into the general system.

The proposed definition of the term “plant railroad” is consistent with FRA’s longstanding policy that it will exercise its safety jurisdiction over a rail operation that moves rail cars for entities other than itself because those movements bring the track over which the entity is operating into the general system. See 49 CFR part 209, Appendix A. Indeed, FRA’s Policy Statement provides that “operations by the plant railroad indicating it [i]s moving cars on . . . trackage for other than its own purposes (e.g., moving cars to neighboring industries for hire)” brings plant track into the general system and thereby subjects it to FRA’s safety jurisdiction. 49 CFR part 209, Appendix A. Additionally, this interpretation of the term “plant railroad” has been upheld in litigation before the U.S. Court of Appeals for the Fifth Circuit. See Port of Shreveport-Bossier v. Federal Railroad Administration, No. 10-60324 (5<sup>th</sup> Cir. 2011) (unpublished per curiam opinion).

FRA also makes clear that FRA’s Policy Statement addresses circumstances where railroads that are part of the general system may have occasion to enter a plant railroad's property (e.g., a major railroad goes into a chemical or auto plant to pick up or set out cars) and operate over its track. As explained in the Policy Statement, the plant railroad itself does not get swept into the general system by virtue of the other railroad's activity, except to the extent it is liable, as the track owner, for the condition of its track over which the other railroad operates during its incursion into the plant. Accordingly, the rule would make clear that the track over which a general system railroad operates would not be excluded from the application of this part, even if the track is located within the confines of a plant railroad.

#### Section 213.113 Defective Rails

Paragraph (a). In this paragraph, FRA is proposing to clarify that only a person qualified under § 213.7 is qualified to determine that a track may continue to be utilized once a known defective condition is identified. FRA accepts the RSAC recommendation to add “or repaired” to paragraph (a)(1) to allow railroads to use recently-developed processes that remove the defective portion of the rail section and replace that portion utilizing recently-developed weld technologies commonly referred to as “slot weld” or “wide gap weld.” These processes allow the remaining portion of non-defective rail to remain in the track.

Paragraph (b). FRA is proposing to redesignate existing paragraph (b) as paragraph (d) and add a new paragraph (b) providing that railroads have a four-hour period in which to verify that a suspected defect exists in the rail section. This would apply only to suspected defects that may require remedial action notes “C” through “I,” found in the remedial action table. This would not apply to suspected defects that may require remedial action notes “A,” “A2,” or “B.” The four-hour timeframe would provide the railroads flexibility to allow the rail flaw detector car to continue testing in a non-stop mode, without requiring verification of suspected defects that may require remedial action under notes “C” through “I,” when the track has to be cleared for train traffic movement. However, any suspected defect encountered that may require remedial action notes “A,” “A2,” or “B” would require immediate verification. This brief, deferred-verification period would also avoid the need to operate the detector car in a non-test, “run light” mode over a possibly severe defective rail condition that could cause a derailment while clearing the track.

The primary purpose of the four-hour deferred-verification option is to assist the railroads in improving detector car utilization and production, increase the opportunity to detect larger defects, and ensure that all the rail the detector car travels over while in service is inspected. FRA is in agreement with the railroad industry that most tracks are accessible by road or hi-rail, and will support a deferred-verification process where the operator can verify the suspect defect location with a portable type of test unit. FRA also agrees that if the detector car travels over the rail while in service it is more beneficial to complete the inspection over that location instead of leaving a possible serious internal defect undetected in the track.

Paragraph (c). Currently, the remedial action table and its notes are included under paragraph (a). FRA is proposing to add a new paragraph (c) to contain both the table and its notes, as revised. Specifically, FRA proposes revisions to the remedial action table regarding transverse defects. FRA would place the “transverse fissure” defect in the same category as detail fracture, engine burn fracture, and defective weld because they all normally fail in a transverse plane. The RITF discussed the possible addition of compound fissure to this category as well, to combine all transverse-oriented defects under the same remedial action. However, FRA ultimately determined that “compound fissure” should not be included in this category because a compound fissure may result in rail failure along an oblique or angular plane in relation to the cross section of the rail and should be considered a more severe defect requiring more restrictive remedial action. In addition, FRA proposes that the header of the remedial action table for all transverse-type defects (i.e. compound fissures, transverse fissures, detail fractures, engine burn fractures, and defective welds) be revised to refer to the

“percentage of existing rail head cross-sectional area weakened by defect,” to indicate that all transverse defect sizes are related to the actual rail head cross-sectional area, thus taking rail head wear into consideration. This is proposed to preclude the possibility that the flaw detector operator may size transverse defects without accounting for the amount of rail head loss on the specimen.

FRA’s proposed revisions to the remedial action table would also reduce the current limit of eighty percent of the rail head cross-sectional area requiring remedial action notes “A2” or “E and H” to sixty percent of the rail head cross-sectional area. FRA reviewed the conclusions of the most recent study performed by the Transportation Technology Center, Inc., concerning the development of transverse-oriented detail fracture defects: “Improved Rail Defect Detection Technologies: Flaw Growth Monitoring and Service Failure Characterization,” AAR Report No. R-959, Davis, David D., Garcia, Gregory A., Snell, Michael E., September 2002. (A copy of this study has been placed in the public docket for this rulemaking.) The study concluded that detail fracture transverse development is considered to be inconsistent and unpredictable. Further, the average growth development of the detail fracture defects in the study exceeded five percent of the cross-sectional area of the rail head per every one mgt of train traffic. Id., at Table 1. Recognizing the impact of these findings, FRA believes that detail fracture defects reported as greater than sixty percent of the cross-sectional area of the rail head necessitate the remedial actions required under this section, specifically that the railroad assign a person designated under § 213.7 to supervise each operation over the defect or apply and bolt joint bars to the defect in accordance with § 213.121(d) and (e),

and limit operating speed over the defect to 50 m.p.h. or the maximum allowable speed under § 213.9 for the class of track concerned, whichever is lower.

FRA also proposes adding required remedial action for a longitudinal defect that is associated with a defective weld. This proposal is based on current industry detection and classification experience for this type of defect, and would assign remedial action for the railroads to utilize. FRA proposes adding this defect to the remedial action table and including all longitudinal defects within one group subject to identical remedial actions based on their reported sizes. These types of longitudinal defects all share similar growth rates and the same remedial actions are considered appropriate for each type.

FRA also proposes the addition of “Crushed Head” to the remedial action table. This type of defect may affect the structural integrity of the rail section and impact vehicle dynamic response in the higher speed ranges. The RITF discussed the detection and classification of this type of defect, and its addition to the table would provide railroads with a remedial action to utilize. A crushed head defect would be identified in the table, and defined in paragraph (d) of this section, as being 3/8 inch or more in depth and 8 inches or more in length.

FRA notes that the AAR expressed some concern regarding Footnote 1 of the remedial action table, which identifies conditions that could be considered a “break out in rail head.” The AAR pointed out that there had been previous incidents where an FRA inspector would consider a chipped rail end as a rail defect under this section, and at times the railroad was issued a defect or violation regarding this condition. FRA makes clear that a chipped rail end is not a designated rail defect under this section and is not, in itself, an FRA enforceable defective condition. Therefore, FRA intends to make clear in

the Track Safety Standards Compliance Manual guidance for FRA inspectors that a chipped rail end is not to be considered as a “break out in rail head.”

FRA proposes the addition of a second footnote, Footnote 2, to the remedial action table. The footnote would provide that remedial action “D” applies to a moon-shaped breakout, resulting from a derailment, with a length greater than 6 inches but not exceeding 12 inches and a width not exceeding one-third of the rail base width. FRA has proposed this change to allow relief because of the occurrence of multiple “broken base” defects that result from a dragging wheel derailment that may prevent traffic movement. FRA also recommends that track owners conduct a special visual inspection of the rail, pursuant to § 213.239, before the operation of any train over the affected track. A special visual inspection pursuant to § 213.239, which requires an inspection be made of the track involved in a derailment incident, should be done to assess the condition of the track associated with these broken base conditions before the operation of any train over the affected track.

#### Revisions to the “Notes” to the Remedial Action Table

Notes A, A2, and B. Notes A, A2, and B would be published in their entirety without substantive change.

Note C. FRA proposes a revision to remedial action note C, which applies specifically to detail fractures, engine burn fractures, transverse fissures, and defective welds, and addresses defects that are discovered during an internal rail inspection required under § 213.237 and whose size is determined not to be in excess of twenty-five percent of the rail head cross-sectional area. For these specific defects, a track owner currently has to apply joint bars bolted only through the outermost holes at the defect

location within 20 days after it is determined to continue the track in use. However, evaluation of recent studies on transverse defect development shows that slow crack growth life is inconsistent and unpredictable. Therefore, FRA believes waiting 20 days to repair this type of defect is too long. FRA proposes that for these specific defects a track owner must apply joint bars bolted only through the outermost holes to the defect within 10 days after it is determined to continue the track in use. FRA also proposes that when joint bars have not been applied within 10 days, the track speed must be limited to 10 m.p.h. until joint bars are applied. The RITF recommended this addition to allow the railroads alternative relief from remedial action for these types of defects in Class 1 and 2 track, and FRA agrees with the Task Force.

Note D. FRA proposes a revision to remedial action note D, which applies specifically to detail fractures, engine burn fractures, transverse fissures, and defective welds, and addresses defects that are discovered during an internal rail inspection required under § 213.237 and whose size is determined not to be in excess of 60 percent of the rail head cross-sectional area. Currently, for these specific defects, a track owner has to apply joint bars bolted only through the outermost holes at the defect location within 10 days after it is determined that the track should continue in use. However, evaluation of recent studies on transverse defect development shows that slow crack growth life is inconsistent and unpredictable. Therefore, FRA determined that allowing a 10-day period before repairing this type of defect is too long. Instead, FRA proposes that for these specific defects a track owner must apply joint bars bolted only through the outermost holes to the defect within 7 days after it is determined to continue the track in use. A timeframe of 7 days is sufficient to allow for replacement or repair of these



defects, no matter when a defect is discovered. FRA also proposes that when joint bars have not been applied within 7 days, the speed must be limited to 10 m.p.h. until joint bars are applied. The RITF recommended this addition to allow the railroads alternative relief from remedial action for these types of defects in Class 1 and 2 track, and FRA agrees with the Task Force.

Note E. Note E would be published in its entirety without substantive change.

Note F. FRA proposes to revise note F so that if the rail remains in the track and is not replaced or repaired, the re-inspection cycle starts over with each successive re-inspection unless the re-inspection reveals the rail defect to have increased in size and therefore become subject to a more restrictive remedial action. This process would continue indefinitely until the rail is removed from the track or repaired. If not inspected within 90 days, the speed would be limited to that for Class 2 track or the maximum allowable speed under § 213.9 for the class of track concerned, whichever is lower, until inspected. This change would define the re-inspection cycle and require the railroad to continue the re-inspection or apply a reduction in speed.

Note G. Note G currently requires the railroad to inspect the defective rail within thirty days after it is determined that the track should continue to be used. FRA proposes to revise note G so that if the rail remains in the track and is not replaced or repaired, the re-inspection cycle would start over with each successive re-inspection unless the re-inspection reveals the rail defect to have increased in size and therefore become subject to a more restrictive remedial action. This process would continue indefinitely until the rail is removed from the track or repaired. If not inspected within 30 days, the railroad would be required to limit the speed to that for Class 2 track or the maximum allowable speed

under § 213.9 for the class of track concerned, whichever is lower, until inspected. This change would define the re-inspection cycle and require the railroad to continue the re-inspection or apply a reduction in speed.

Notes H and I. Notes H and I would be published in their entirety without substantive change.

Paragraph (d). FRA is proposing to redesignate paragraph (b) as paragraph (d) and to revise it to define terms used in this section and in § 213.237. Definitions currently provided in paragraph (b)(1), (b)(3) through (8), (b)(10) through (13), and (b)(15) would be published in their entirety without substantive change. However, four terms would be redefined, and all terms would be enumerated in alphabetical order.

(d)(3) Compound fissure. FRA proposes to revise this definition, including removing the last sentence of the current definition, which provides that “[c]ompound fissures require examination of both faces of the fracture to locate the horizontal split head from which they originate.” Rail failure analysis where a pre-existing fatigue condition is present normally exhibits an identical identifiable defective condition on both rail fracture faces. Thus, analysis of one fracture face should be sufficient to determine the type of defect, the origin of the defect, and the size of the defect. Additionally, it is typical in the railroad industry that only one failure fracture face is retained during the subsequent repair phase of rail replacement. Therefore, FRA has determined that the examination of only one fracture face is necessary to identify the horizontal split head from which compound fissures originate, and is proposing to modify the definition accordingly.

(d)(4) Crushed head. As discussed earlier, FRA proposes the addition of “Crushed head” to the remedial action table. FRA recognizes that operators currently detect and classify this type of defect, and this addition would provide a remedial action for the railroad to use. Crushed head would be identified in the table and defined by the current industry standard as being a short length of rail, not at a joint, which has drooped or sagged across the width of the rail head to a depth of  $\frac{3}{8}$  inch or more below the rest of the rail head and 8 inches or more in length. FRA proposes that measurements taken to classify the crushed head defect not include the presence of localized chips or pitting in the rail head. FRA notes that it plans to include this language in a section on “Crushed head” in the Track Safety Standards Compliance Manual.

(d)(6) Defective weld. FRA is proposing to add required remedial action for a longitudinal defect that is associated with a defective weld. FRA has determined that the railroad industry currently detects and classifies this type of defect, and the addition would codify a specific remedial action for the railroads to utilize. FRA recognizes that these defects develop in an oblique or angular plane within the rail section and have growth rates comparable to other longitudinal-type defects. Therefore, FRA believes that the same remedial action is appropriate.

(d)(9) Flattened Rail. FRA proposes a change to the definition of flattened rail to be aligned with the current industry standard and § 213.113 Remedial Action Table requirements that the area is flattened out across the width of the rail head to a depth of  $\frac{3}{8}$  inch or more below the rest of the rail and 8 inches or more in length.

Section 213.119 Continuous Welded Rail (CWR); Plan Contents

FRA proposes removing the requirement under paragraph (h)(7)(ii) of this section to generate a Joint Bar Fracture Report (Fracture Report) for every cracked or broken CWR joint bar that the track owner discovers during the course of an inspection. Currently under this section, any track owner, after February 1, 2010, could petition FRA to conduct a technical conference to review fracture report data submitted through December 2009 and assess the necessity for continuing to collect this data. One Class I railroad submitted a petition to FRA, and on October, 26, 2010, a meeting of the RSAC Track Standards Working Group served as a forum for a technical conference to evaluate whether there was a continued need for the collection of these reports. The Group ultimately determined that the reports were costly and burdensome to the railroads and their employees, while providing little useful research data to prevent future failures of CWR joint bars. The Group found that Fracture Reports were not successful in helping to determine the root cause of CWR joint bar failures because the reports gathered only a limited amount of information after the joint bar was already broken.

Instead, the Group recommended that a new study be conducted to determine what conditions lead to CWR joint bar failures and include a description of the overall condition of the track in the vicinity of the failed joint(s); photographic evidence of the failed joint, track geometry (gage, alignment, profile, cross-level) at the joint location; and the maintenance history at the joint location. Two Class I railroads volunteered to participate in a new joint bar study, which is expected to provide better data to pinpoint why CWR joint bars fail. In the meantime, given that FRA does not find it beneficial to retain the existing requirement for railroads to submit CWR Joint Bar Fracture Reports, FRA proposes to remove the requirement and reserve the paragraph.

## Section 213.237 Inspection of Rail

Paragraph (a). Currently, under existing paragraph (a) of this section, Class 4 and 5 track, as well as Class 3 track over which passenger trains operate, is required to be tested for internal rail defects at least once every accumulation of 40 mgt or once a year (whichever time is shorter), and Class 3 track over which passenger trains do not operate is required to be tested at least once every accumulation of 30 mgt or once per year (whichever time is longer). When this provision was drafted, railroads were already initiating and implementing the development of a performance-based risk management concept for determining rail inspection frequency, which is often referred to as the “self-adaptive scheduling method.” Under this method, inspection frequency is established based on several factors, including the total detected defect rate per test, the rate of service failures between tests, and the accumulated tonnage between tests. The railroads then utilize this information to generate and maintain a service failure performance target.

This NPRM proposes to revise paragraph (a) to require railroads to maintain service failure rates of no more than 0.1 service failure per year per mile of track for all Class 4 and 5 track; no more than 0.09 service failure per year per mile of track for all Class 3, 4, and 5 track that carries regularly-scheduled passenger trains or is a hazardous material route; and no more than 0.08 service failure per year per mile of track for all Class 3, 4, and 5 track that carries regularly-scheduled passenger trains and is a hazardous material route.

The proposed changes to this section seek to codify standard industry good practices. With the implementation of the self-adaptive method, railroads generally test more frequently than currently required, and the test intervals align more closely with

generally-accepted maintenance practices. The frequency of rail inspection cycles vary according to the total detected defect rate per test; the rate of service failures, as defined in paragraph (j) below, between tests; and the accumulated tonnage between tests—all of which are factors that the railroad industry's rail quality managers generally consider when determining test schedules.

In 1990, as a result of its ongoing rail integrity research, FRA released report DOT/FRA/ORD-90/05; Control of Rail Integrity by Self-Adaptive Scheduling of Rail Tests; Volpe Transportation Systems Center; Oscar Orringer. The research objective was to provide the basis for a specification to adequately control the scheduling of rail tests of U.S. railroads. The research provided quantitative guidelines for scheduling rail tests based on rail defect behavior. The purpose of this method for scheduling rail tests is to establish a performance goal that is most advantageous to the control of rail flaw development and subsequent rail failure in a designated track segment. If the performance goal is not met, a responsive adjustment is triggered to the rail test schedule to ensure that the goal is met.

The research determined that a minimum requirement for annual rail testing requires a baseline figure of 0.1 service failure per mile for freight railroads. This baseline value can then be adjusted depending on characteristics of the individual railroad's operation and internal risk control factors. For instance, a railroad that handles multiple passenger trains a day may require scheduling rail test frequencies adequate to maintain a performance goal of 0.03 service failure. The baseline value applied for determining rail test frequencies can also be adjusted based on specific conditions that may influence rail flaw development such as age of the rail, rail wear, climate, etc. As a

result, the RITF reached consensus that 0.1 service failure per mile was established as an appropriate minimum performance requirement for use in the U.S. freight railroad system. The Task Force also reached consensus that the minimum performance requirement should be adjusted to no more than 0.09 service failure per year per mile of track for all Class 3, 4, and 5 track that carries regularly-scheduled passenger trains or is a hazardous material route, and no more than 0.08 service failure per year per mile of track for all Class 3, 4, and 5 track that carries regularly-scheduled passenger trains and is a hazardous material route.

Paragraph (b). Current paragraph (b) would be redesignated as paragraph (f) without substantive change. Under new paragraph (b), each rail inspection segment would be designated by the track owner. While the RITF discussed at length how best to define the term “segment” as it relates to inspection of rail under this section, ultimately the Task Force could not come to a consensus on a definition. The BMWED, NTSB and AAR were split on how best to define this term, and so no recommendation was ever made to the full RSAC. The BMWED and NTSB were concerned that collecting service failure rates that were averaged over excessively large segments of track (such as segments longer than a subdivision length) would fail to identify discrete areas of weakness with chronically high concentrations of service failures. At the same time, the BMWED and NTSB also recognized that if a segment size was too small, one random failure could trigger a service failure rate in excess of the performance target under this section. The BMWED and NTSB recommended that FRA impose a specific, uniform segment rate to be used by all railroads that is calculated to achieve the optimal length to avoid these problems.

The AAR, on the other hand, maintained that each individual railroad is in the best position to determine its own segment lengths based on factors that are unique to the railroad's classification system. The AAR noted that each railroad has distinct segment configurations and challenges for which each railroad has developed specific approaches to identify and address them. The AAR believed that it was not possible to define a single methodology to appropriately address every railroad's specific configurations and factors, and that any approach established in a regulation would be extremely difficult and costly to implement. The AAR stated that the large amount of route miles, complex networks, and vast quantities of data being analyzed on Class I railroads requires an automated electronic approach that integrates satisfactorily with each railroad's data system, which currently Class I railroads utilize. Arbitrary segmentation limitations developed through regulation would not be compatible with some of those systems and would create an onerous and costly burden of redesigning systems, with little overall improvement to safety, according to the AAR. The AAR maintained that each individual service failure represents a certain risk which is not affected by whether it is close to other service failures. The AAR contended that the railroads want the service failure rate to be as low as possible and look for any patterns in service failures that suggest ways to reduce the service failure rate. Noting that these patterns can be affected by a myriad of different factors, the AAR stated that trying to create artificial boundaries on the length of a segment could lead to a less than optimal use of internal rail inspection capabilities, as well as decreased safety.

While FRA acknowledges the BMWED's and NTSB's concerns regarding identifying localized areas of failure, FRA recognizes that railroads have designed their



current segment lengths through a decade of researching their own internal system rail testing requirements. This research takes into consideration pertinent criteria such as rail age, accumulated tonnage, rail wear, track geometry, and other conditions specific to these individual railroad-defined segments. FRA believes that altering existing railroad segment lengths without extensive data and research could be financially burdensome to individual railroads and detrimental to established rail maintenance programs, without yielding significant safety benefits.

FRA believes that requiring a designated segment length that focuses on these localized areas could disrupt current engineering policies and result in problematic and costly adjustments to the railroads' current maintenance programs without providing significant safety benefits. In addition, recognizing the BMWED's and NTSB's concerns, FRA believes that railroads, as well as FRA, will be able to capture rail failure data, even in large segment areas, by simply looking at rail failure records and comparing milepost locations. Therefore, FRA is not recommending a uniform segment length to be applied by all railroads. Instead, FRA recommends that railroads utilize their own designated segment lengths, which they would be using at the time of the promulgation of the final rule arising from this NPRM. However, in order to maintain consistency and uniformity, FRA would require that if a railroad wishes to change or deviate from its segment lengths, the railroad must receive FRA approval to make that change. This would ensure that the railroad does not have the ability to freely alter the defined segment length in order to compensate for a sudden increase of detected defects and service failures that could require an adjustment to the test frequency as a result of accelerated defect development.

Paragraph (c). FRA is proposing to redesignate current paragraph (c) as paragraph (e) and revise it, as discussed below. In new paragraph (c) FRA proposes that internal rail inspections on Class 4 and 5 track, or Class 3 track with regularly-scheduled passenger trains or that is a hazardous materials route, not exceed a time interval of 370 days between inspections or a tonnage interval of 30 mgt between inspections, whichever is shorter. The addition of this 370-day interval or 30-mgt accumulation would provide a maximum timeframe between tests on lines that may not be required to undergo testing on a more frequent basis in order to achieve the performance target rate. If limits were not set, for example, a railroad line carrying only 2 mgt a year could possibly go 15 years without testing. This length of time without testing was unacceptable to the Task Force; therefore, these proposed limits were included.

Paragraph (c) would also provide that internal rail inspections on Class 3 track without regularly-scheduled passenger trains that is not a hazardous materials route must be inspected at least once each calendar year, with no more than 18 months between inspections, or at least once every 30 mgt, whichever interval is longer, with the additional provision that inspections cannot be more than 5 years apart. The additional requirement for a maximum inspection interval of 370 days or tonnage accumulation of 30 mgt between rail inspections would provide a maximum time and tonnage interval between rail tests for low-tonnage lines. The reason why testing for internal rail defects would be decreased from 40 mgt to 30 mgt is because studies have shown that, while the predominant factor that determines the risk of rail failure is the rate of development of internal flaws, the development of internal rail flaws is neither constant nor predictable. Previous studies on the development of transverse-oriented rail defects showed the

average development period to be 2% of the cross-sectional area of the rail head per mgt, which meant that rail testing would have to be completed within every 50 mgt. However, the RITF took into consideration the conclusions of a more recent study performed by the Transportation Technology Center, Inc., Improved Rail Defect Detection Technologies: Flaw Growth Monitoring and Service Failure Characterization, AAR Report NO. R-959, Gregory A. Garcia, Michael E. Snell, David D. Davis, September 2002, concerning the development of transverse-oriented detail fracture defects, which concluded that detail fracture transverse development averaged 5% of the cross-sectional area of the rail head per mgt. This would mean that testing would have to be done every 20 mgt. However, the study also concluded that development of internal rail flaws was considered to be inconsistent and unpredictable. Thus, as a result, consensus was reached to lower the 40-mgt limit between tests to 30 mgt.

Selecting an appropriate frequency for rail testing is a complex task involving many different factors including rail head wear, accumulated tonnage, rail surface conditions, track geometry, track support, steel specifications, temperature differentials, and residual stresses. Taking into consideration the above factors, FRA's research suggests that all of these criteria influence defect development (and ultimately rail service failure rates) and are considered in the determination of rail inspection frequencies when utilizing the performance-based self-adaptive test method.

For railroads without access to a sophisticated self-scheduling algorithm to determine testing frequencies, FRA would post an algorithm program designed by the Volpe Center on the FRA Web site. The algorithm would require five inputs: (1) service failures per mile in the previous year; (2) detected defects per mile in the previous year;

(3) annual tonnage; (4) number of rail tests conducted in the previous year; and (5) the targeted number of service failures per mile. Once the input is complete, the algorithm would take the average of two numbers when it calculates the number of rail tests. The first number would be based on the service failure rate. The second would be based on the total defect rate, which is the service defect rate plus the detected defect rate. This rate of designated tests per year for the designated segment would be the number of required tests per year enforced by FRA for the segment.

The NPRM also proposes the addition of requirements for inspection of rail intended for reuse, or “plug rail.” On March 8, 2006, FRA issued Notice of Safety Advisory 2006-02 (SA), which promulgated recommended industry guidelines for the reuse of plug rail. 71 FR 11700. The recommendations in the SA consisted of two options for assuring that reused rail was free from internal defects.

Specifically, FRA’s SA recommended that the entire length of any rail that is removed from track and stored for reuse must be retested for internal flaws. FRA also recommended that, recognizing that some railroads do not have the equipment to test second-hand rail in accordance with the recommendation above, railroads were encouraged to develop a classification program intended to decrease the likelihood that a railroad will install second-hand rail containing defects back into active track. In addition, FRA recommended that a highly visible permanent marking system be developed and used to mark defective rails that railroads remove from track after identifying internal defects in those rails.

During some of the first RITF discussions, the NTSB expressed concern over one aspect of FRA’s SA: the guidance that provides that rail is suitable for reuse if it has not

accumulated more than 15 mgt since its last valid rail test. The NTSB suggested that such rail could experience up to 55 mgt before its next inspection if it were put in track at a location that had just been inspected and whose inspection frequency is every 40 mgt. The NTSB believed that all plug rail should be immediately inspected prior to reuse.

Also during RITF discussions, railroads described their method for assuring that rail intended for reuse is free of internal defects. In general, it was found that most railroads perform an ultrasonic inspection on rail intended for reuse while in the track and allow accumulation of tonnage prior to removal, or they perform an inspection and certification process of the rail after it has been taken out of service and prior to re-installation. However, the railroads stressed that plug rail inspection requirements should not be overly burdensome and should meet the same standards as any other rail inspections per the regulations.

FRA shares the railroads' concerns about creating a standard for rail inspection that would allow 30-mgt accumulation on in-service rail, but would mandate immediate inspection of plug rail prior to reuse. Consequently, FRA's proposal allows for plug rail to be inspected at the same frequency as conventional rail. This proposal would, therefore, supersede FRA Safety Advisory 2006-02 and codify current industry practice by allowing the use of rail that has been previously tested to be placed in track and retested at the normal frequency for that track segment. Nonetheless, all else being equal, FRA does recommend that the rail be tested prior to installation in track for reuse, even though FRA believes that requiring that the railroad test the rail immediately prior to installation is too restrictive. Alternatively, FRA believes that the railroad should have knowledge of the date the rail was last tested and ensure that the maximum tonnage of 30

mgt is not exceeded prior to retesting the rail. Once the rail is installed in track, FRA expects the rail to be tested in accordance with the test frequency of the designated segment. FRA would require the railroad to have the ability to verify when the rail was last tested and the accumulated tonnage prior to installation.

Paragraph (d). Current paragraph (d) would be redesignated as paragraph (g) and revised, as discussed below. In new paragraph (d), FRA proposes restrictions that would apply if the service failure target rate is not achieved on a segment of track for two consecutive twelve-month periods. FRA recognizes that the service failure target rate may be exceeded within one defined twelve-month period. Therefore, the railroad would be allowed an additional year to adjust its rail integrity management program to bring the service failure rate on the offending track segment into compliance with the requirements. If the service failure target rate is exceeded for two consecutive twelve-month periods, the railroad would be required to comply with the requirements in paragraph (d) for either a minimum rail test frequency or a speed restriction on the offending track segment.

Paragraph (e). As noted above, FRA is proposing to redesignate paragraph (c) as paragraph (e) with some revision. Specifically, in paragraph (e) FRA proposes to require that each defective rail be marked with a highly visible marking on both sides of the web and base except that, where a side or sides of the web and base are inaccessible because of permanent features, the highly visible marking would be placed on or next to the head of the rail. This option to mark the rail head in certain situations would provide an alternative to the railroad in areas where the web or base may not be accessible. Current paragraph (e) would be redesignated as paragraph (h) and revised, as discussed below.

Paragraph (f). As stated above, FRA proposes to redesignate current paragraph (b) as paragraph (f) without substantive change.

Paragraph (g). Paragraph (g) would address the case where a valid search for internal rail defects could not be made because of rail surface conditions. Several types of technologies are presently employed to continuously search for internal rail defects, some capable of displaying and monitoring search signal returns. A continuous search is intended to mean an uninterrupted search by whatever technology is being used, so that there are no segments of rail that are not tested. If the test is interrupted, e.g., as a result of rail surface conditions that inhibit the transmission or return of the signal, then the test over that segment of rail may not be valid because it was not continuous. Therefore, as proposed in the NPRM, a valid search for internal rail defects would be defined in paragraph (j), below, as a “valid test” during which the equipment is performing as intended and equipment responses are interpreted by a qualified operator as defined in § 213.238. In conducting a valid search, the operator would need to determine that the test has not been compromised due to environmental contamination, rail conditions, or test equipment performance.

Paragraph (h). FRA proposes to redesignate current paragraph (e) as paragraph (h) and revise it. In paragraph (h), FRA proposes to specify the options available to a railroad following a non-test. These options must be exercised prior to the expiration of the time or tonnage limits specified in paragraphs (a) or (c) of this section.

Paragraph (i). FRA proposes a new paragraph (i) to require that the rail flaw detector car operator be qualified as defined in new § 213.238, “Qualified operator,”

which would prescribe minimum training requirements for railroad personnel performing in this occupation.

Paragraph (j). FRA proposes to add paragraph (j) to provide new definitions for terms that are used in this section and that are applicable only to this section.

Hazardous materials route. FRA proposes a definition for “hazardous material route” to be applied when determining the service failure target rate pursuant to paragraph (a) of this section.

Plug rail. FRA proposes a definition for “plug rail” to mean a length of rail that has been removed from one track location and stored for future use as a replacement rail at another location.

Service failure. FRA proposes that only the listed fatigue defects, i.e., compound fissure, transverse fissure, detail fracture, or vertical split head, are to be utilized for determining the fatigue service failure rate. Since other defect types are more likely to go undetected, and how well defects can be detected is influenced by conditions other than fatigue, they would not be included in the service failure rate calculation.

Valid search. FRA proposes a definition to ensure that a valid test under this section has been conducted. As proposed, the test equipment must perform as intended and equipment responses must be properly interpreted by a qualified operator as defined in § 213.238.

#### Section 213.238 Qualified Operator

FRA proposes to add this new section to require that any entity that conducts rail flaw detection have a documented training program to ensure that a flaw detection equipment operator is qualified to operate each of the various types of equipment



currently utilized in the industry for which he or she is assigned, and that proper training is provided if new rail flaw detection technologies are utilized.

As proposed in paragraph (b), the operator must have documentation from his or her employer that designates his or her qualifications to perform various functions associated with the flaw detection process. Specifically, requirements are proposed to help ensure that the operator is able to determine that a valid search for internal rail flaws is conducted, the equipment is functioning properly at all times, and the operator can properly interpret the test results and understand test equipment environmental limitations.

In paragraph (c), FRA proposes that the operator must receive a minimum amount of documented, supervised training according to the rail flaw detection equipment or employer's training program. FRA understands that this training may not be entirely held within the classroom environment and is in agreement that the employer should have the flexibility to determine the training process that is appropriate for compliance. The operator would be required to demonstrate proficiency for each type of equipment the employer intends the operator to use, and documentation must be available to FRA to verify the qualification.

As proposed in paragraph (d), operator reevaluation and, as necessary, refresher training would be provided in accordance with the employer's training program. The employer would be provided the flexibility to determine the necessary process and the frequency.

In paragraph (e), FRA proposes that the employer maintain a written or electronic record of each operator's qualification. The record must include the operator's name,

type of equipment qualification, date of initial qualification, and most recent re-evaluation of his or her qualifications, if any. This proposal is intended to ensure consistent recordkeeping and that FRA can accurately verify compliance.

FRA proposes in paragraph (f) that existing rail flaw detection operators, prior to the date of promulgation of the final rule arising from this rulemaking, be considered qualified to operate the equipment as designated by the employer. Any employee that is considered for the position of qualified operator subsequent to the date of promulgation of the final rule must be qualified in accordance with paragraph (c) of this section.

Finally, in paragraph (g) FRA proposes that the records specifically associated with the operator qualification process are maintained at a designated location and made available to FRA as requested. This is intended to assist FRA to accurately verify the railroad's compliance.

#### Section 213.241 Inspection Records

This section contains requirements for keeping, handling, and making available records of track inspections required in accordance with subpart F.

Paragraphs (a) and (b) would remain unchanged.

FRA proposes to revise paragraph (c) to require that the railroad's rail inspection records include the date of inspection, track identification and milepost for each location tested, type of defect found and size if not removed prior to traffic, and initial remedial action as required by § 213.113. FRA also proposes that all tracks that do not receive a valid test be documented in the railroad's rail inspection records. These changes would respond to a recommendation arising out of the report by DOT's OIG referenced above, "Enhancing the Federal Railroad Administration's Oversight of Track Safety

Inspections,” CR-2009-038, February 24, 2009, which is available on the OIG’s public Web site at:

[http://www.oig.dot.gov/sites/dot/files/pdfdocs/Signed\\_Final\\_Track\\_Safety\\_Report\\_02-](http://www.oig.dot.gov/sites/dot/files/pdfdocs/Signed_Final_Track_Safety_Report_02-24-09.pdf)

[24-09.pdf](http://www.oig.dot.gov/sites/dot/files/pdfdocs/Signed_Final_Track_Safety_Report_02-24-09.pdf). The OIG recommended that FRA “[r]evise its track safety regulations for internal rail flaw testing to require the railroads to report all track locations (milepost numbers or track miles) covered during internal rail flaw testing.” See OIG report at p. 8. The last sentence of current paragraph (c) would be moved to paragraph (d), as discussed below.

FRA proposes to redesignate current paragraph (d) as paragraph (f). In its place, FRA proposes to move to paragraph (d) and slightly modify the last sentence in current paragraph (c). In paragraph (d), FRA proposes that the railroads be required to maintain the rail inspection records at least for two years after an inspection has occurred and for one year after the initial remedial action has been taken. This information is vital for FRA to determine compliance with the rail integrity and inspection requirements in § 213.113 and § 213.237.

FRA proposes to redesignate current paragraph (e) as paragraph (g) without substantive change. In new paragraph (e), FRA proposes that rail inspection records must be maintained to sufficiently demonstrate compliance with proposed § 213.237(a). This requirement is intended to provide sufficient information to determine that accurate data concerning detected defects is utilized by the railroads as input into the performance-based test frequency formula. During RITF discussions, the railroads asked that FRA requests for records of rail inspections demonstrating compliance with required test frequencies be made by a designated FRA Rail Integrity Specialist; each railroad would

then designate a person within its organization whom the Rail Integrity Specialists would contact when requesting records of rail inspections. FRA agrees that this suggested approach would be an efficient way to obtain inspection records and FRA intends to adopt this approach through guidance in FRA's Track Safety Compliance Manual.

As discussed above, FRA proposes to redesignate current paragraph (d) as paragraph (f) without substantive change. The paragraph provides that track inspection records be made available for inspection and copying by the Federal Railroad Administration upon request.

As discussed above, FRA proposes to redesignate current paragraph (e) as paragraph (g) without substantive change. This paragraph contains requirements for maintaining and retrieving electronic records of track inspections.

## **VII. Regulatory Impact and Notices**

### **A. Executive Orders 12866 and 13563 and DOT Regulatory Policies and Procedures**

This proposed rule has been evaluated in accordance with existing policies and procedures and determined to be non-significant under both Executive Orders 12866 and 13563 and DOT policies and procedures. See 44 FR 11034; February 26, 1979. FRA has prepared and placed in the docket a Regulatory Evaluation addressing the economic impact of this proposed rule. As part of the regulatory evaluation, FRA has assessed any quantitative costs from the implementation of this rule as proposed, and believes that the rail industry is already in compliance with the proposed requirements and that there are no new costs associated with the rule. FRA has also estimated the benefits of the rule and that, for a 20-year period, the industry would save \$61.3 million, with a present value (PV, 7) of \$34.8 million. This cost-benefit analysis of the rule shows that the potential

benefits from the proposal would exceed any costs.

FRA considered potential industry costs associated with the proposed rule, including: minimum qualification requirements for rail flaw detection equipment operators, as well as revisions to requirements for effective rail inspection frequencies, rail flaw remedial actions, and requirements for rail inspection records. The bulk of this proposed regulation would codify the railroad industry's current good practices. FRA believes that the railroad industry is currently following these practices, but requests comments in our assumptions, specifically the extent to which all Class III railroads with Class 3, 4 or 5 track would already be in compliance with this rule as proposed. For more details, please see the Regulatory Evaluation found in the docket.

As part of the Regulatory Evaluation, FRA also explained what the likely benefits for this proposed rule would be, and provided a cost-benefit analysis. FRA anticipates that this rulemaking would enhance the current Track Safety Standards by allocating more time to rail inspections, increasing the opportunity to detect larger defects sooner, providing assurance that qualified operators are inspecting the rail, and causing inspection records to contain more useful information. The main benefit associated with this proposed rule is derived from granting the railroads a four-hour window to verify defects found in a rail inspection. Without the additional time to verify a defect, railroads currently must stop their inspection when a suspect defect is identified and then resume their inspection after the defect is verified. The defects subject to the proposed deferred verification allowance are usually considered less likely to cause immediate rail failure, and require less restrictive remedial action. The additional time permits railroads to avoid the cost of paying their internal inspection crews or renting a rail car flaw detector

an additional half day, saving the industry \$8,400 per day. FRA believes the value of the anticipated benefits would easily justify any cost of implementing the rule as proposed.

<b>20-Year Benefits for Proposed Rule</b>	
Four-Hour Inspection Window	\$34,754,935*
<b>Total</b>	<b>\$34,754,935*</b>

\*Benefits are discounted to present value using a 7 percent discount rate.

#### B. Regulatory Flexibility Act and Executive Order 13272

The Regulatory Flexibility Act of 1980 (5 U.S.C. 601 et seq.) and Executive Order 13272 (67 FR 53461; August 16, 2002) require agency review of proposed and final rules to assess their impact on small entities. An agency must prepare an initial regulatory flexibility analysis (IRFA) unless it determines and certifies that a rule, if promulgated, would not have a significant impact on a substantial number of small entities. FRA has not determined whether this proposed rule would have a significant impact on a substantial number of small entities. Therefore, FRA is publishing this IRFA to aid the public in commenting on the potential small business impacts of the proposed requirements in this NPRM. FRA invites all interested parties to submit data and information regarding the potential economic impact on small entities that would result from the adoption of this NPRM. FRA will consider all comments received in the public comment process when making a final determination.

The proposed rule would apply to all railroads that own Class 3, 4 or 5 track. Based on information currently available, FRA estimates that all small entities are already in compliance the proposed rule. Therefore, FRA believes that no small business

would be negatively impacted by the proposed rule, as there are no additional costs.

Based on FRA's railroad reporting data from 2010 there are 710 Class III railroads; however, of those 710, only 58 own Class 3, 4 or 5 track and could be considered small for the purposes of this analysis. FRA knows that 51 of those railroads are already in compliance with the rule, as proposed, and believes that the other 7 Class III railroads are also in compliance, but does not have that information to confirm this statement. FRA requests comments on this assumption believing that no extra investments or costs would need to be made to meet the proposed requirements. Even if those 7 entities were impacted, the economic impact on them would likely not be significant. This IRFA is not intended to be a stand-alone document. The discussion of total regulatory cost in the Regulatory Evaluation is the basis for the estimates in this IRFA and it has been placed in the docket for public review as it provides extensive information about any costs of the proposed regulation for each specific requirement in this NPRM.

In accordance with the Regulatory Flexibility Act, an IRFA must contain:

- A description of the reasons why the action by the agency is being considered.
- A succinct statement of the objectives of, and legal basis for, the proposed rule.
- A description—and, where feasible, an estimate of the number—of small entities to which the proposed rule will apply.
- A description of the projected reporting, record keeping, and other compliance requirements of the proposed rule, including an estimate of the

classes of small entities that will be subject to the requirements and the types of professional skills necessary for preparation of the report or record.

- An identification, to the extent practicable, of all relevant Federal rules that may duplicate, overlap, or conflict with the proposed rule.

1. Reasons for Considering Agency Action.

The goal of the proposed rule is to amend the existing Federal Track Safety Standards to improve rail flaw detection processes and promote safety in railroad operations. Rail Integrity is a priority for FRA and the railroad industry. FRA is using this opportunity to modernize Federal track standards with the industry's current good practices. FRA would also grant the railroads a 4-hour window to verify a defect. This would save the industry millions of dollars, as it takes additional time and money to not only obtain or operate, or both, a rail flaw detector car, but also find free time on track segments to conduct additional inspections.

After reviewing the current track standards, FRA determined the best, most cost-efficient and beneficial way to modernize our standards was to propose this rule. FRA anticipates that the proposed requirements would be accepted by the industry as being as unobtrusive as possible.

2. A Succinct Statement of the Objectives of, and Legal Basis for, the Proposed Rule.

The purpose of this rulemaking is to amend the Federal Track Safety Standards to improve rail flaw detection processes and promote the safety of railroad operations.

Pursuant to 49 U.S.C. 20103, the Secretary maintains general authority to



prescribe regulations as necessary in any area of railroad safety. The Track Safety Standards fall under this purview. Additionally, on October 16, 2008, the RSIA was enacted into law. Section 403(a) of the RSIA required the Secretary to conduct a study of track issues, known as the Track Inspection Time Study (Study). The study was completed and presented to Congress on May 2, 2011. Section 403(c) of the RSIA further provides that FRA prescribe regulations based on the results of the Study two years after its completion. As delegated by the Secretary, FRA initially looked at creating a new regulation focusing on the recommendations of the Study; however, it was determined that multiple proposed rules were already addressing these recommendations. Therefore, this regulation in conjunction with other recent proposed and final FRA rules will allow FRA to fulfill the RSIA mandate.

Overall, FRA is using this opportunity to improve the existing track safety standards in 49 CFR part 213.

3. A Description of, and Where Feasible, an Estimate of Small Entities to Which the Proposed Rule Would Apply

The “universe” of the entities to be considered generally includes only those small entities that are reasonably expected to be directly regulated by this rulemaking. This proposed rule would affect all railroads that own Class 3, 4 or 5 track.

“Small entity” is defined in 5 U.S.C. 601. Section 601(3) defines a “small entity” as having the same meaning as “small business concern” under section 3 of the Small Business Act. This includes any small business concern that is independently owned and operated, and is not dominant in its field of operation. Section 601(4) likewise includes within the definition of “small entities” not-for-profit enterprises that are independently

owned and operated, and are not dominant in their field of operation. The Small Business Administration (SBA) stipulates in its size standards that the largest a railroad business firm that is “for profit” may be and still be classified as a “small entity” is 1,500 employees for “Line Haul Operating Railroads” and 500 employees for “Switching and Terminal Establishments.” Additionally, 5 U.S.C. 601(5) defines as “small entities” governments of cities, counties, towns, townships, villages, school districts, or special districts with populations less than 50,000.

Federal agencies may adopt their own size standards for small entities in consultation with the SBA and in conjunction with public comment. Pursuant to that authority, FRA has published a final statement of agency policy that formally establishes “small entities” or “small businesses” as being railroads, contractors, and hazardous materials shippers that meet the revenue requirements of a Class III railroad as set forth in 49 CFR 1201.1-1, which is \$20 million or less in inflation-adjusted annual revenues; and commuter railroads or small governmental jurisdictions that serve populations of 50,000 or less. See 68 FR 24891, May 9, 2003, codified at appendix C to 49 CFR part 209. The \$20 million-limit is based on the Surface Transportation Board’s revenue threshold for a Class III railroad. Railroad revenue is adjusted for inflation by applying a revenue deflator formula in accordance with 49 CFR 1201.1-1. FRA is proposing to use this definition for this rulemaking. Any comments received pertinent to its use will be addressed in the final rule.

According to FRA, there are a total of 763 regulated railroads. There are 7 Class I railroads and 12 Class II railroads, all which are not considered to be small. There are a total of 29 commuter/passenger railroads, including Amtrak, affected by this rule.

However, most of the affected commuter railroads are part of larger public transportation agencies that receive Federal funds and serve major jurisdictions with populations greater than 50,000.

The level of costs incurred by each railroad should generally vary in proportion to the number of miles of Class 3, 4 or 5 track. For instance, railroads with less mileage should have lower overall costs associated with implementing the standards, as proposed. There are 710 Class III railroads. Of those railroads, only 58 are affected by the rule. However, FRA has confirmation that 51 of these small railroads are already in compliance with this regulation. FRA also believes that the remaining 7 affected Class III railroads are also in compliance, and that no small entity would be negatively impacted by this regulation.

4. A Description of the Projected Reporting, Recordkeeping, and Other Compliance Requirements of the Rule, Including an Estimate of the Class of Small Entities That Will Be Subject to the Requirements and the Type of Professional Skill Necessary for Preparation of the Report or Record.

For a thorough presentation of cost estimates, please refer to the Regulatory Evaluation, which has been placed in the docket for this rulemaking.

Rail and infrastructure integrity specialists in FRA's Office of Railroad Safety anticipate that all railroads that would be required to comply with the regulation, as proposed, are already in compliance with the proposed requirements. Even if the 7 small railroads that FRA assumed are in compliance with the rule are not, the added costs would be minimal. FRA estimates that it would cost a Class III railroad \$2,000 per day to rent a rail flaw detector car. The average Class III railroad that owns Class 3, 4, or 5

track has approximately 70 miles of track. FRA estimates it would take 3 days to inspect their entire track. The total cost per railroad would be \$6,000 per year. Again, FRA is confident that these railroads are already inspecting their track at least once a year; however, if these entities were not in compliance, FRA believes a cost of \$6,000 per year would not be a significant economic impact on the railroads.

5. An Identification, to the Extent Practicable, of All Relevant Federal Rules That May Duplicate, Overlap, or Conflict with the Proposed Rule.

FRA is not aware of any relevant Federal rules that may duplicate, overlap or conflict with the specific requirements proposed in this rule.

FRA invites all interested parties to submit data and information regarding the potential economic impact that would result from adoption of the proposals in this NPRM. FRA will consider all comments received in the public comment process when making a final determination.

C. Paperwork Reduction Act

The information collection requirements in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995, 44 U.S.C. 3501 et seq.

CFR Section	Respondent Universe	Total Annual Responses	Average Time per Response	Total Annual Burden Hours
213.4 - Excepted track				
- Designation of track as excepted	236 railroads	20 orders	15 minutes	5 hours
- Notification to FRA about removal of excepted track	236 railroads	15 notification	10 minutes	3 hours
213.5 - Responsibility of track owners	763 railroads	10 notification	8 hours	80 hours

213.7 - Designation of qualified persons to supervise certain renewals and inspect track				
- Designations	763 railroads	1,500 names	10 minutes	250 hours
- Employees trained in CWR procedures	37 railroads	8,000 trained employees	90 minutes	12,000 hours
- Written authorizations and recorded exams	37 railroads	8,000 auth. + 8,000 exams	10 minutes + 60 minutes	9,333 hours
- Designations (partially qualified) under paragraph (c) of this section	37 railroads	250 names	10 minutes	42 hours
213.17 - Waivers	763 railroads	6 petitions	24 hours	144 hours
213.57 - Curves, elevation and speed limitations				
- Request to FRA for approval	763 railroads	2 requests	40 hours	80 hours
- Notification to FRA with written consent of other affected track owners	763 railroads	2 notifications	45 minutes	2 hours
- Test plans for higher curving speeds	1 railroad	2 test plans	16 hours	32 hours
213.110 - Gage restraint measurement systems (GRMS)				
- Implementing GRMS - notices & reports	763 railroads	5 notifications + 1 tech rpt.	45 minutes	8 hours
- GRMS vehicle output reports	763 railroads	50 reports	4 hours	4 hours
- GRMS vehicle exception reports	763 railroads	50 reports	5 minutes	4 hours
- GRMS/PTLF - procedures for data integrity	763 railroads	4 proc. docs.	5 minutes	8 hours
- GRMS training programs/sessions	763 railroads	2 programs + 5 sessions	2 hours	112 hours
- GRMS inspection records	763 railroads	50 records	16 hours	100 hours
213.118 Continuous welded rail (CWR); plan review and approval				
- Plans with written procedures for CWR	279 railroads	279 plans	4 hours	1,116 hours
- Notification to FRA and RR employees of CWR plan effective date	279 railroads	279 + 8,000 notifications	15 minutes + 2 minutes	336 hours
- Written submissions after plan disapproval	279 railroads	20 submissions	2 hours	40 hours
- Final FRA disapproval and plan amendment	279 railroads	20 amended plans	1 hour	20 hours
213.119 - Continuous welded rail (CWR); plan contents				
- Annual CWR training of employees	279 railroads	8,000 trained employees	30 minutes	4,000 hours
- Record keeping	279 railroads	2,000 records	10 minutes	333 hours
- Record keeping for CWR rail joints	279 railroads	360,000 rcds.	2 minutes	12,000 hours
- Periodic records for CWR rail joints	279 railroads	480,000 rcds.	1 minute	8,000 hours
- Copy of track owner's CWR procedures	279 railroads	279 manuals	10 minutes	47 hours
213.233 - Track inspections - Notations	763 railroads	12,500 notations	1 minute	208 hours
213.241 - Inspection records	763 railroads	1,542,089 records	Varies	1,672,941 hours
213.303 – Responsibility for compliance	2 railroads	1 notification	8 hours	8 hours

213.305 – Designation of qualified individuals; general qualifications Designations (partially qualified)	2 railroads	20 designations	10 minutes	3 hours
213.317 – Waivers	2 railroads	1 petition	80 hours	80 hours
213.329 – Curves, elevation and speed limitations - Written notification	2 railroads 2 railroads	3 notifications 3 notifications	40 hours 45 minutes	120 hours 2 hours
213.333 – Automated vehicle inspection systems - Track/vehicle performance measurement system	2 railroads + 1 possible future railroad 2 railroads	18 reports 13 printouts	20 hours 20 hours	360 hours 260 hours
213.341 – Initial inspection of new rail and welds - Mill inspection - Welding plant inspection - Inspection of field welds	2 railroads 2 railroads 2 railroads	2 reports 2 reports 125 records	16 hours 16 hours 20 minutes	32 hours 32 hours 42 hours
213.343 – Continuous welded rail (CWR)	2 railroads	150 records	10 minutes	25 hours
213.345 – Vehicle qualification testing	1 railroad	2 reports	560 hours	1,120 hours
213.369 – Inspection records - Inspection defects + remedial action	2 railroads 2 railroads	500 records 50 records	1 minute 5 minutes	8 hours 4 hours

All estimates include the time for reviewing instructions; searching existing data sources; gathering or maintaining the needed data; and reviewing the information.

Pursuant to 44 U.S.C. 3506(c)(2)(B), FRA solicits comments concerning the following: whether these information collection requirements are necessary for the proper performance of the functions of FRA, including whether the information has practical utility; the accuracy of FRA's estimates of the burden of the information collection requirements; the quality, utility, and clarity of the information to be collected; and whether the burden of collection of information on those who are to respond, including through the use of automated collection techniques or other forms of information technology, may be minimized. For information or a copy of the paperwork package submitted to OMB, contact Mr. Robert Brogan, Office of Railroad Safety, Information

Clearance Officer, at 202-493-6292, or Ms. Kimberly Toone, Office of Financial Management and Administration, Information Clearance Officer, at 202-493-6132.

Organizations and individuals desiring to submit comments on the collection of information requirements should direct them to Mr. Robert Brogan or Ms. Kimberly Toone, Federal Railroad Administration, 1200 New Jersey Avenue, SE, 3<sup>rd</sup> Floor, Washington, DC 20590. Comments may also be submitted via e-mail to Mr. Brogan or Ms. Toone at the following address: [Robert.brogan@dot.gov](mailto:Robert.brogan@dot.gov); [Kimberly.toone@dot.gov](mailto:Kimberly.toone@dot.gov)

OMB is required to make a decision concerning the collection of information requirements contained in this proposed rule between 30 and 60 days after publication of this document in the Federal Register. Therefore, a comment to OMB is best assured of having its full effect if OMB receives it within 30 days of publication. The final rule and associated information collection submission will respond to any OMB or public comments on the information collection requirements contained in this proposal.

FRA is not authorized to impose a penalty on persons for violating information collection requirements that do not display a current OMB control number, if required. FRA intends to obtain current OMB control numbers for any new information collection requirements resulting from this rulemaking action prior to the effective date of the eventual final rule. The OMB control number, when assigned, will be announced by separate notice in the Federal Register.

#### D. Environmental Impact

FRA has evaluated this NPRM in accordance with its “Procedures for Considering Environmental Impacts” (FRA’s Procedures) (64 FR 28545, May 26, 1999) as required by the National Environmental Policy Act (42 U.S.C. 4321 et seq.), other

environmental statutes, Executive Orders, and related regulatory requirements. FRA has determined that this action is not a major FRA action (requiring the preparation of an environmental impact statement or environmental assessment) because it is categorically excluded from detailed environmental review pursuant to section 4(c)(20) of FRA's Procedures. 64 FR 28547, May 26, 1999. In accordance with section 4(c) and (e) of FRA's Procedures, the agency has further concluded that no extraordinary circumstances exist with respect to this NPRM that might trigger the need for a more detailed environmental review. As a result, FRA finds that this NPRM is not a major Federal action significantly affecting the quality of the human environment.

#### E. Federalism Implications

Executive Order 13132, "Federalism" (64 FR 43255, Aug. 10, 1999), requires FRA to develop an accountable process to ensure "meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications." "Policies that have federalism implications" are defined in the Executive Order to include regulations that have "substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government." Under Executive Order 13132, the agency may not issue a regulation with federalism implications that imposes substantial direct compliance costs and that is not required by statute, unless the Federal government provides the funds necessary to pay the direct compliance costs incurred by State and local governments or the agency consults with State and local government officials early in the process of developing the regulation. Where a



regulation has federalism implications and preempts State law, the agency seeks to consult with State and local officials in the process of developing the regulation.

FRA has analyzed this proposed rule in accordance with the principles and criteria contained in Executive Order 13132. If adopted, this proposed rule would not have a substantial direct effect on the States, on the relationship between the Federal government and the States, or on the distribution of power and responsibilities among the various levels of government. FRA has also determined that this proposed rule would not impose substantial direct compliance costs on State and local governments. Therefore, the consultation and funding requirements of Executive Order 13132 do not apply.

Moreover, FRA notes that RSAC, which endorsed and recommended the majority of this proposed rule, has as permanent members, two organizations representing State and local interests: AASHTO and ASRSM. Both of these State organizations concurred with the RSAC recommendation made in this rulemaking. RSAC regularly provides recommendations to the Administrator of FRA for solutions to regulatory issues that reflect significant input from its State members. To date, FRA has received no indication of concerns about the federalism implications of this rulemaking from these representatives or from any other representatives of State government.

However, if adopted, this proposed rule could have preemptive effect by operation of law under 49 U.S.C 20106 (Sec. 20106). Section 20106 provides that States may not adopt or continue in effect any law, regulation, or order related to railroad safety or security that covers the subject matter of a regulation prescribed or order issued by the Secretary of Transportation (with respect to railroad safety matters) or the Secretary of Homeland Security (with respect to railroad security matters), except when the State law,

regulation, or order qualifies under the “local safety or security hazard” exception to section 20106.

In sum, FRA has analyzed this proposed rule in accordance with the principles and criteria contained in Executive Order 13132. As explained above, FRA has determined that this proposed rule has no federalism implications, other than the possible preemption of State laws under Sec. 20106. Accordingly, FRA has determined that preparation of a federalism summary impact statement for this proposed rule is not required.

#### F. Unfunded Mandates Reform Act of 1995

Pursuant to section 201 of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4, 2 U.S.C. 1531), each Federal agency “shall, unless otherwise prohibited by law, assess the effects of Federal regulatory actions on State, local, and tribal governments, and the private sector (other than to the extent that such regulations incorporate requirements specifically set forth in law).” Section 202 of the Act (2 U.S.C. 1532) further requires that “before promulgating any general notice of proposed rulemaking that is likely to result in the promulgation of any rule that includes any Federal mandate that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100,000,000 or more (adjusted annually for inflation) [currently \$143,100,000 in 2010 dollars] in any 1 year, and before promulgating any final rule for which a general notice of proposed rulemaking was published, the agency shall prepare a written statement” detailing the effect on State, local, and tribal governments and the private sector. This NPRM will not result in the expenditure, in the aggregate, of

\$143,100,000 in 2010 dollars or more in any one year, and thus preparation of such a statement is not required

#### G. Energy Impact

Executive Order 13211 requires Federal agencies to prepare a Statement of Energy Effects for any “significant energy action.” See 66 FR 28355 (May 22, 2001). Under the Executive Order a “significant energy action” is defined as any action by an agency that promulgates or is expected to lead to the promulgation of a final rule or regulation, including notices of inquiry, advance notices of proposed rulemaking, and notices of proposed rulemaking: (1)(i) that is a significant regulatory action under Executive Order 12866 or any successor order, and (ii) is likely to have a significant adverse effect on the supply, distribution, or use of energy; or (2) that is designated by the Administrator of the Office of Information and Regulatory Affairs as a significant energy action. FRA has evaluated this NPRM in accordance with Executive Order 13211. FRA has determined that this NPRM is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Consequently, FRA has determined that this NPRM is not a “significant energy action” within the meaning of the Executive Order.

#### H. Privacy Act Statement

Anyone is able to search the electronic form of all comments received into any of DOT’s dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). Please visit <http://www.regulations.gov/#!privacyNotice>. You may review DOT’s complete Privacy Act Statement published in the Federal Register on April 11, 2000 (Volume 65, Number 70, Pages 19477-78), or you may visit <http://www.dot.gov/privacy.html>.

## **List of Subjects in 49 CFR Part 213**

Penalties, Railroad safety, Reporting and recordkeeping requirements.

### **The Proposed Rule**

For the reasons discussed in the preamble, FRA proposes to amend part 213 of chapter II, subtitle B of title 49, Code of Federal Regulations, as follows:

#### **Part 213—[AMENDED]**

1. The authority citation for part 213 continues to read as follows:

**Authority:** 49 U.S.C. 20102-20114 and 20142; Sec. 403, Div. A, Public Law 110–432, 122 Stat. 4885; 28 U.S.C. 2461, note; and 49 CFR 1.49.

#### **Subpart A—General**

2. Section 213.3 is amended by revising paragraph (b) to read as follows:

##### **§ 213.3 Application.**

\* \* \* \* \*

(b) This part does not apply to track—

(1) Used exclusively for rapid transit operations in an urban area that are not connected to the general railroad system of transportation.

(2) Located inside an installation that is not part of the general railroad system of transportation (i.e., a plant railroad). As used in this part, plant railroad means a plant or installation that owns or leases a locomotive, uses that locomotive to switch cars throughout the plant or installation, and is moving goods solely for use in the facility's own industrial processes. The plant or installation could include track immediately adjacent to the plant or installation if the plant railroad leases the track from the general

system railroad and the lease provides for (and actual practice entails) the exclusive use of that track by the plant railroad and the general system railroad for purposes of moving only cars shipped to or from the plant. A plant or installation that operates a locomotive to switch or move cars for other entities, even if solely within the confines of the plant or installation, rather than for its own purposes or industrial processes, will not be considered a plant railroad because the performance of such activity makes the operation part of the general railroad system of transportation. Similarly, this exclusion does not apply to track over which a general system railroad operates, even if that track is located within a plant railroad.

#### **Subpart D—Track Structure**

3. Section 213.113 is revised to read as follows:

##### **§ 213.113 Defective rails.**

(a) When an owner of track learns that a rail in the track contains any of the defects listed in the table contained in paragraph (c) of this section, a person designated under § 213.7 shall determine whether the track may continue in use. If the designated person determines that the track may continue in use, operation over the defective rail is not permitted until –

- (1) The rail is replaced or repaired; or
- (2) The remedial action prescribed in the table contained in paragraph (c) of this section is initiated.

(b) When an owner of track learns that a rail in the track contains an indication of any of the defects listed in the table contained in paragraph (c) of this section, the track

owner shall verify the indication. The track owner must verify the indication within four hours, unless the track owner has an indication of the existence of the defects that require remedial action A, A2, or B identified in the table contained in paragraph (c) of this section, in which case the track owner must immediately verify the indication. If the indication is verified, the track owner must –

(1) Replace or repair the rail; or

(2) Initiate the remedial action prescribed in the table contained in paragraph (c) of this section.

(c) Remedial action table. A track owner who learns that a rail contains one of the following defects shall prescribe the remedial action specified if the rail is not replaced or repaired:

**REMEDIAL ACTION TABLE**

Defect	Length of defect (inch(es))		Percentage of existing rail head cross-sectional area weakened by defect		If the defective rail is not replaced or repaired, take the remedial action prescribed in note
	More than	But not more than	Less than	But not less than	
<b>Compound Fissure</b>	..... ..... .....	..... ..... .....	70..... 100..... .....	5..... 70..... 100.....	B. A2. A.
<b>Transverse Fissure Detail Fracture Engine Burn Fracture Defective Weld</b>	..... ..... ..... .....	..... ..... ..... .....	25..... 60..... 100..... .....	5..... 25..... 60..... 100.....	C. D. A2, or [E and H]. A, or [E and H].
<b>Horizontal Split Head Vertical Split Head Split Web Piped Rail Head Web Separation Defective Weld (Longitudinal)</b>	1..... 2..... 4..... ( <sup>1</sup> ).....	2..... 4..... ..... ( <sup>1</sup> ).....	..... ..... ..... .....	..... ..... ..... .....	H and F. I and G. B. A.
<b>Bolt Hole Crack</b>	¼..... 1..... 1½..... ( <sup>1</sup> ).....	1..... 1½..... ..... ( <sup>1</sup> ).....	..... ..... ..... .....	..... ..... ..... .....	H and F. H and G. B. A.
<b>Broken Base</b>	1..... 6 ( <sup>2</sup> ).....	6..... .....	..... .....	..... .....	D. A, or [E and I].
<b>Ordinary Break</b>	.....	.....	.....	.....	A or E.
<b>Damaged Rail</b>	.....	.....	.....	.....	C.
<b>Flattened Rail Crushed Head</b>	Depth > ⅜ and Length > 8.....	.....	.....	.....	H.

(1) Break out in rail head.

(2) Remedial action D applies to a moon-shaped breakout, resulting from a derailment, with length greater than 6 inches but not exceeding 12 inches and width not exceeding one-third of the rail base width.

Notes:

A. Assign a person designated under § 213.7 to visually supervise each operation over the defective rail.

A2. Assign a person designated under § 213.7 to make a visual inspection. After a visual inspection, that person may authorize operation to continue without continuous visual supervision at a maximum of 10 m.p.h. for up to 24 hours prior to another such visual inspection or replacement or repair of the rail.

B. Limit operating speed over the defective rail to that as authorized by a person designated under § 213.7(a), who has at least one year of supervisory experience in railroad track maintenance. The operating speed cannot be over 30 m.p.h. or the maximum allowable speed under § 213.9 for the class of track concerned, whichever is lower.

C. Apply joint bars bolted only through the outermost holes to the defect within 10 days after it is determined to continue the track in use. In the case of Class 3 through 5 track, limit the operating speed over the defective rail to 30 m.p.h. until joint bars are applied; thereafter, limit the speed to 50 m.p.h. or the maximum allowable speed under § 213.9 for the class of track concerned, whichever is lower. When a search for internal rail defects is conducted under § 213.237, and defects are discovered in Class 3 through 5 track that require remedial action C, the operating speed shall be limited to 50 m.p.h., or the maximum allowable speed under § 213.9 for the class of track concerned, whichever is lower, for a period not to exceed 4 days. If the defective rail has not been removed from the track or a permanent repair made within 4 days of the discovery, limit operating speed over the defective rail to 30 m.p.h. until joint bars are applied; thereafter, limit speed to 50 m.p.h. or the maximum allowable speed under § 213.9 for the class of track concerned, whichever is lower. When joint bars have not been applied within 10 days, the speed must be limited to 10 m.p.h. until joint bars are applied.

D. Apply joint bars bolted only through the outermost holes to defect within 7 days after it is determined to continue the track in use. In the case of Class 3 through 5 track, limit operating speed over the defective rail to 30 m.p.h. or less as authorized by a person designated under § 213.7(a), who has at least one year of supervisory experience in railroad track maintenance, until joint bars are applied; thereafter, limit speed to 50 m.p.h. or the maximum allowable speed under § 213.9 for the class of track concerned, whichever is lower. When joint bars have not been applied within 7 days, the speed must be limited to 10 m.p.h. until the joint bars are applied.

E. Apply joint bars to the defect and bolt in accordance with § 213.121(d) and (e).

F. Inspect the rail within 90 days after it is determined to continue the track in use. If the rail remains in track and is not replaced or repaired, the reinspection cycle starts over with each successive reinspection unless the reinspection reveals the rail defect to have increased in size and therefore become subject to a more restrictive remedial action. This process continues indefinitely until the rail is removed from the track or repaired. If not inspected within 90 days, limit speed to that for Class 2 track or the maximum allowable



speed under § 213.9 for the class of track concerned, whichever is lower, until it is inspected.

G. Inspect rail within 30 days after it is determined to continue the track in use. If the rail remains in the track and is not replaced or repaired, the reinspection cycle starts over with each successive reinspection unless the reinspection reveals the rail defect to have increased in size and therefore become subject to a more restrictive remedial action. This process continues indefinitely until the rail is removed from the track or repaired. If not inspected within 30 days, limit speed to that for Class 2 track or the maximum allowable speed under §213.9 for the class of track concerned, whichever is lower, until it is inspected.

H. Limit operating speed over the defective rail to 50 m.p.h. or the maximum allowable speed under § 213.9 for the class of track concerned, whichever is lower.

I. Limit operating speed over the defective rail to 30 m.p.h. or the maximum allowable speed under § 213.9 for the class of track concerned, whichever is lower.

(d) As used in this section—

(1) Bolt hole crack means a crack across the web, originating from a bolt hole, and progressing on a path either inclined upward toward the rail head or inclined downward toward the base. Fully developed bolt hole cracks may continue horizontally along the head/web or base/web fillet, or they may progress into and through the head or base to separate a piece of the rail end from the rail. Multiple cracks occurring in one rail end are considered to be a single defect. However, bolt hole cracks occurring in adjacent rail ends within the same joint must be reported as separate defects.

(2) Broken base means any break in the base of the rail.

(3) Compound fissure means a progressive fracture originating from a horizontal split head that turns up or down, or in both directions, in the head of the rail. Transverse development normally progresses substantially at a right angle to the length of the rail.

(4) Crushed head means a short length of rail, not at a joint, which has drooped or sagged across the width of the rail head to a depth of  $\frac{3}{8}$  inch or more below the rest of the

rail head and 8 inches or more in length. Unlike flattened rail where the depression is visible on the rail head only, the sagging or drooping is also visible in the head/web fillet area.

(5) Damaged rail means any rail broken or otherwise damaged by a derailment, broken, flat, or unbalanced wheel, wheel slipping, or similar causes.

(6) Defective weld means a field or plant weld containing any discontinuities or pockets, exceeding 5 percent of the rail head area individually or 10 percent in the aggregate, oriented in or near the transverse plane, due to incomplete penetration of the weld metal between the rail ends, lack of fusion between weld and rail end metal, entrapment of slag or sand, under-bead or shrinkage cracking, or fatigue cracking. Weld defects may originate in the rail head, web, or base, and in some cases, cracks may progress from the defect into either or both adjoining rail ends. If the weld defect progresses longitudinally through the weld section, the defect is considered a split web for purposes of remedial action required by this section.

(7) Detail fracture means a progressive fracture originating at or near the surface of the rail head. These fractures should not be confused with transverse fissures, compound fissures, or other defects which have internal origins. Detail fractures may arise from shelled spots, head checks, or flaking.

(8) Engine burn fracture means a progressive fracture originating in spots where driving wheels have slipped on top of the rail head. In developing downward they frequently resemble the compound or even transverse fissures with which they should not be confused or classified.

(9) Flattened rail means a short length of rail, not at a joint, which has flattened out across the width of the rail head to a depth of  $\frac{3}{8}$  inch or more below the rest of the rail and 8 inches or more in length. Flattened rail occurrences have no repetitive regularity and thus do not include corrugations, and have no apparent localized cause such as a weld or engine burn. Their individual length is relatively short, as compared to a condition such as head flow on the low rail of curves.

(10) Head and web separation means a progressive fracture, longitudinally separating the head from the web of the rail at the head fillet area.

(11) Horizontal split head means a horizontal progressive defect originating inside of the rail head, usually  $\frac{1}{4}$  inch or more below the running surface and progressing horizontally in all directions, and generally accompanied by a flat spot on the running surface. The defect appears as a crack lengthwise of the rail when it reaches the side of the rail head.

(12) Ordinary break means a partial or complete break in which there is no sign of a fissure, and in which none of the other defects described in this paragraph (d) is found.

(13) Piped rail means a vertical split in a rail, usually in the web, due to failure of the shrinkage cavity in the ingot to unite in rolling.

(14) Split web means a lengthwise crack along the side of the web and extending into or through it.

(15) Transverse fissure means a progressive crosswise fracture starting from a crystalline center or nucleus inside the head from which it spreads outward as a smooth, bright, or dark round or oval surface substantially at a right angle to the length of the rail. The distinguishing features of a transverse fissure from other types of fractures or defects

are the crystalline center or nucleus and the nearly smooth surface of the development which surrounds it.

(16) Vertical split head means a vertical split through or near the middle of the head, and extending into or through it. A crack or rust streak may show under the head close to the web or pieces may be split off the side of the head.

4. Section 213.119 is amended by removing and reserving paragraph (h)(7)(ii) to read as follows:

**§ 213.119 Continuous welded rail (CWR); plan contents.**

*	*	*	*	*
(h)	*	*	*	
(7)	*	*	*	
(ii)	[Reserved]			
*	*	*	*	*

**Subpart F—Inspection**

5. Section 213.237 is revised to read as follows:

**§ 213.237 Inspection of rail.**

(a) In addition to the inspections required by § 213.233, a track owner shall conduct internal rail inspections sufficient to maintain service failure rates per rail inspection segment in accordance with this paragraph (a) for a 12-month period as determined by the track owner and calculated within 45 days of the end of the period. These rates shall not include service failures that occur in rail that has been replaced

through rail relay since the time of the service failure. Rail used to repair a service failure defect is not considered rail relay. The service failure rates shall not exceed—

- (1) 0.1 service failure per year per mile of track for all Class 4 and 5 track;
- (2) 0.09 service failure per year per mile of track for all Class 3, 4, and 5 track that carries regularly-scheduled passenger trains or is a hazardous material route; and
- (3) 0.08 service failure per year per mile of track for all Class 3, 4, and 5 track that carries regularly-scheduled passenger trains and is a hazardous material route.

(b) Each rail inspection segment shall be designated by the track owner no later than [DATE 60 DAYS AFTER DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER] for track that is Class 4 or 5 track, or Class 3 track that carries regularly-scheduled passenger trains or is a hazardous material route and is used to determine the milepost limits for the individual rail inspection frequency.

(1) To change the designation of a rail inspection segment or to establish a new segment pursuant to this section, a track owner may submit a detailed request to the FRA Associate Administrator for Railroad Safety/Chief Safety Officer (Associate Administrator). Within 30 days of receipt of the submission, FRA will review the request. FRA will approve, disapprove or conditionally approve the submitted request, and will provide written notice of its determination.

(2) The track owner's existing designation shall remain in effect until the track owner's new designation is approved or conditionally approved by FRA.

(3) The track owner shall, upon receipt of FRA's approval or conditional approval, establish the designation's effective date. The track owner shall advise in writing FRA and all affected railroad employees of the effective date.

(c) Internal rail inspections on Class 4 and 5 track, or Class 3 track with regularly-scheduled passenger trains or that is a hazardous materials route, shall not exceed a time interval of 370 days between inspections or a tonnage interval of 30 million gross tons (mgt) between inspections, whichever is shorter. Internal rail inspections on Class 3 track that is without regularly-scheduled passenger trains and not a hazardous materials route must be inspected at least once each calendar year, with no more than 18 months between inspections, or at least once every 30 mgt, whichever interval is longer, with the additional provision that inspections cannot be more than 5 years apart.

(1) Any rail used as a replacement plug rail in track that is required to be tested in accordance with this section must have been tested for internal rail flaws.

(2) The track owner must be able to verify that the plug rail has not accumulated more than a total of 30 mgt in previous and new locations since its last internal rail flaw test, before the next test on the rail required by this section is performed.

(3) If plug rail not in compliance with paragraphs (c)(1) and (2) of this section is in use after [DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], trains over that rail must not exceed Class 2 speeds until the rail is tested in accordance with this section.

(d) If the service failure rate target identified in paragraph (a) of this section is not achieved, the track owner must inform FRA of this fact within 45 days of the end of the defined 12-month period in which the performance target is exceeded. In addition, the owner may provide to FRA an explanation as to why the performance target was not achieved and provide a remedial action plan.

(1) If the performance target rate is not met for two consecutive years, then for the

area where the greatest number of service failures is occurring, either:

- (i) The inspection tonnage interval between tests must be reduced to 10 mgt; or
- (ii) The class of track must be reduced to Class 2 until the target service failure rate is achieved.

(2) In cases where a single service failure would cause the rate to exceed the applicable service failure rate as designated in paragraph (a) of this section, the service failure rate will be considered to comply with paragraph (a) of this section unless a second such failure occurs within a designated 12-month period.

(3) For the purposes of paragraph (d)(2) of this section, a period begins no earlier than [DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER].

(e) Each defective rail shall be marked with a highly visible marking on both sides of the web and base except that, where a side or sides of the web and base are inaccessible because of permanent features, the highly visible marking shall be placed on or next to the head of the rail.

(f) Inspection equipment shall be capable of detecting defects between joint bars, in the area enclosed by joint bars.

(g) If the qualified rail defect detection equipment operator determines that a valid search for internal defects could not be made over a particular length of track, that particular length of track may not be considered as internally inspected under paragraphs (a) and (c) of this section.

(h) If a valid search for internal defects cannot be conducted, the track owner shall, before expiration of the time or tonnage limits in paragraphs (a) or (c) of this

section—

(1) Conduct a valid search for internal defects;

(2) Reduce operating speed to a maximum of 25 m.p.h. until such time as a valid search can be made; or

(3) Replace the rail that had not been inspected.

(i) The person assigned to operate the rail defect detection equipment must be a qualified operator as defined in § 213.238 and have demonstrated proficiency in the rail flaw detection process for each type of equipment the operator is assigned.

(j) As used in this section—

(1) Hazardous materials route means any track of any class over which a minimum of 10,000 car loads or intermodal portable tank car loads of hazardous material as defined in 49 CFR 171.8 travel over a period of one year; or Class 3, 4 or 5 track over which a minimum of 4,000 car loads or intermodal portable tank car loads of the hazardous material specified in 49 CFR 172.820 travel, in a period of one year.

(2) Plug rail means a length of rail that has been removed from one track location and stored for future use as a replacement rail at another location.

(3) Service failure means a broken rail occurrence, the cause of which is determined to be a compound fissure, transverse fissure, detail fracture, or vertical split head.

(4) Valid search means a continuous inspection for internal rail defects where the equipment is performing as intended and equipment responses are interpreted by a qualified operator as defined in § 213.238.



6. Section 213.238 is added to read as follows:

**§ 213.238 Qualified operator.**

(a) Each track owner or railroad conducting rail flaw detection shall have a documented training program in place and shall identify the types of rail flaw detection equipment for which each operator has received training and is qualified.

(b) A qualified operator shall be trained and shall have written authorization by the employing track owner or railroad (employer) to:

(1) Conduct a valid search for internal rail defects utilizing the specific type(s) of equipment for which he or she is authorized and qualified to operate;

(2) Determine that such equipment is performing as intended;

(3) Interpret equipment responses and institute appropriate action in accordance with the employer's procedures and instructions; and

(4) Determine that each valid search for an internal rail defect is continuous throughout the area inspected and has not been compromised due to environmental contamination, rail conditions, or equipment malfunction.

(c) The operator must have received training in accordance with the documented training program and a minimum of 160 hours of rail flaw detection experience under direct supervision of a qualified operator or rail flaw detection equipment manufacturer's representative. The operator must demonstrate proficiency in the rail defect detection process, including the equipment to be utilized, prior to initial qualification and authorization by the employer for each type of equipment.

(d) Each employer shall reevaluate the qualifications of, and administer any necessary recurrent training for, the operator as determined by and in accordance with the

employer's documented program. The reevaluation and recurrent training may consist of a periodic review of test data submitted by the operator. The reevaluation process shall require that the employee successfully complete a recorded examination and demonstrate proficiency to the employer on the specific equipment type(s) to be operated.

(e) Each employer of a qualified operator shall maintain written or electronic records of each qualification in effect. Each record shall include the name of the employee, the equipment to which the qualification applies, date of qualification, and date of the most recent reevaluation, if any.

(f) Any employee who has demonstrated proficiency in the operation of rail flaw detection equipment prior to [DATE OF PUBLICATION OF THE FINAL RULE IN THE FEDERAL REGISTER], is deemed a qualified operator, regardless of the previous training program under which the employee was qualified. Such an operator shall be subject to paragraph (d) of this section.

(g) Records concerning the qualification of operators, including copies of equipment-specific training programs and materials, recorded examinations, demonstrated proficiency records, and authorization records, shall be kept at a location designated by the employer and available for inspection and copying by FRA during regular business hours.

7. Section 213.241 is amended by redesignating paragraphs (d) and (e) as (f) and (g), by revising paragraph (c), by adding paragraphs (d) and (e) , and by revising newly redesignated paragraphs (f) and (g) to read as follows:

**§ 213.241 Inspection records.**

\* \* \* \* \*

(c) Records of internal rail inspections required by § 213.237 shall specify the—

(1) Date of inspection;

(2) Track inspected, including beginning and end points;

(3) Location and type of defects found under § 213.113;

(4) Size of defects found under § 213.113, if not removed prior to the next train movement;

(5) Initial remedial action taken and the date thereof; and

(6) Location of any track not tested pursuant to § 213.237(g).

(d) The track owner shall retain a rail inspection record under paragraph (c) of this section for at least two years after the inspection and for one year after initial remedial action is taken.

(e) The track owner shall maintain records sufficient to demonstrate the means by which it computes the service failure rate on all track segments subject to the requirements of § 213.237(a) for the purpose of determining compliance with the applicable service failure rate target.

(f) Each track owner required to keep inspection records under this section shall make those records available for inspection and copying by FRA upon request.

(g) For purposes of complying with the requirements of this section, a track owner may maintain and transfer records through electronic transmission, storage, and retrieval provided that—

(1) The electronic system is designed so that the integrity of each record is maintained through appropriate levels of security such as recognition of an electronic

signature, or another means, which uniquely identifies the initiating person as the author of that record. No two persons shall have the same electronic identity;

(2) The electronic storage of each record shall be initiated by the person making the inspection within 24 hours following the completion of that inspection;

(3) The electronic system shall ensure that each record cannot be modified in any way, or replaced, once the record is transmitted and stored;

(4) Any amendment to a record shall be electronically stored apart from the record which it amends. Each amendment to a record shall be uniquely identified as to the person making the amendment;

(5) The electronic system shall provide for the maintenance of inspection records as originally submitted without corruption or loss of data;

(6) Paper copies of electronic records and amendments to those records that may be necessary to document compliance with this part shall be made available for inspection and copying by FRA at the locations specified in paragraph (b) of this section; and

(7) Track inspection records shall be kept available to persons who performed the inspections and to persons performing subsequent inspections.

Issued in Washington, DC, on \_\_October 12, 2012\_\_\_\_\_.

Karen J. Hedlund,  
Deputy Administrator.

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